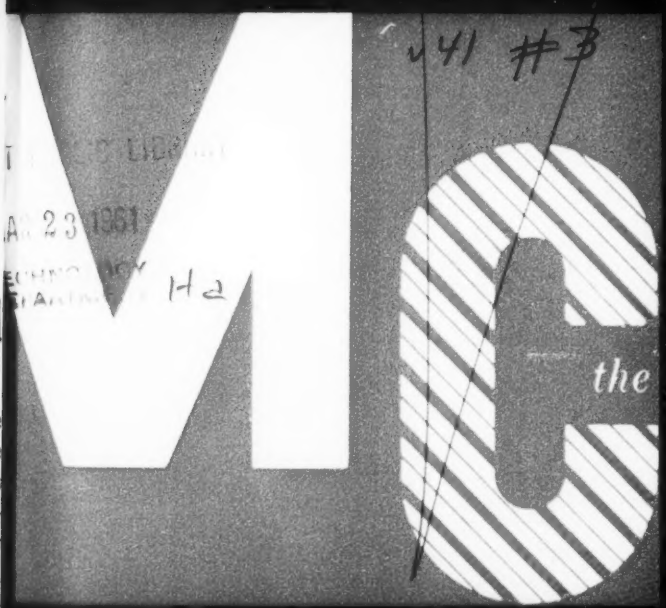
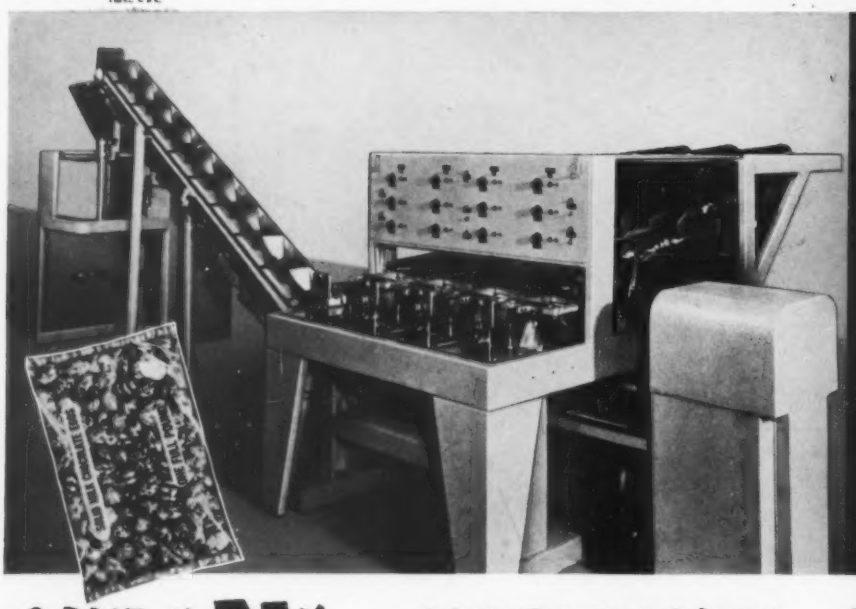
March / 1961

- *Research benefits and needs*
- *New profits in Confectioners' Coatings*
- *Salt Water Taffy gets around*
- *Extend shelf-life of candies for more profit*



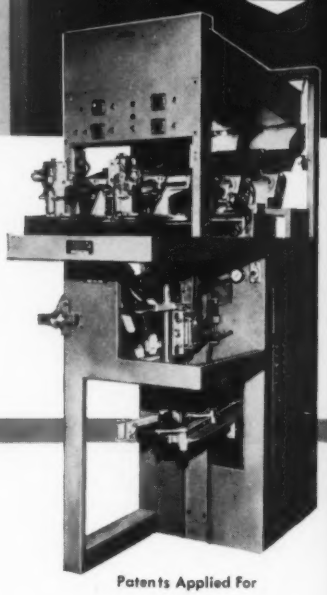
the Manufacturing Confectioner

specialized publication for confectionery manufacturers



4-SCALE HORIZONTAL UNIT
Shown here with bucket conveyor, offers greater convenience for setting-up, filling, servicing. Ideal for low overhead clearance.

2-SCALE VERTICAL UNIT
Shown here on a Verti-Pak packaging machine. Costs less, saves valuable floor space.



SAVE up to 75% on OVERWEIGHTS

WITH NEW MERCOMATIC SCALES

- ACCURATE TO 1/2 OF 1 PIECE, AVERAGE!
- WEIGHS UP TO 50 PACKAGES A MINUTE!

Patents Applied For

This revolutionary new scale system combines many exclusive engineering features to achieve a degree of accuracy never attained before. Adaptable to most products and to all types of packaging equipment, Mercomatic Scales will quickly pay for themselves in product savings through drastic reduction in overweight margins. Engineered by Mercury for high-speed operation with a minimum of set-up and adjustment time, they are designed for both vertical and horizontal application in units of two to six scales.

Special adaptations can be made to fulfill the specific requirements of the user. For practical suggestions regarding the use of Mercomatic Scales in any packaging operation, send a description of products and present packages (samples are preferable), and also required daily production. There is no obligation for this engineering study. Write today!

LOWER INERTIA FACTOR
Balance and buckets are of more efficient design, reducing inertia factor for faster, more sensitive response.

EXTRASENSITIVE PIVOT POINTS
Scientifically designed to respond with critical accuracy to the slightest impulse; of unusually durable construction.

QUICK, ACCURATE VERNIER CONTROL
Enables operator to make minute weight adjustments in a minimum of time with utmost accuracy; shortens set-up time.

INDEPENDENTLY MOUNTED SCALES
Scales are mounted on their own base, completely separate from the rest of the machine; eliminates effects of vibration.

AUTOMATIC CORRELATION OF SCALES
Operation of scales is synchronized for full efficiency. Scales will not unload until all have proper weight.

HIGHLY EFFICIENT STORAGE FEED
Feed from storage bins to scales is custom designed in interrelated sections for the particular products to be used.

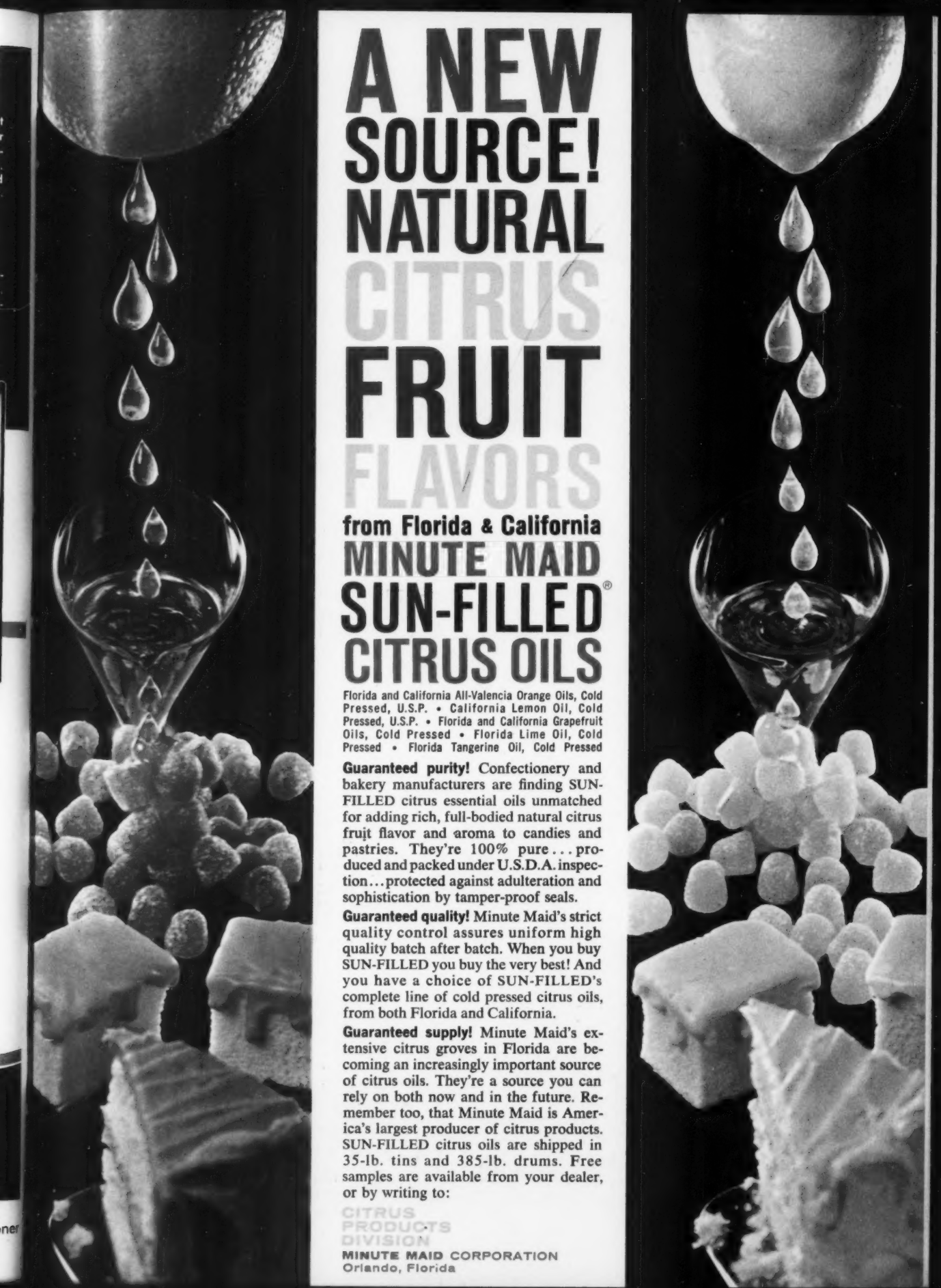
DUAL DRIBBLE AND BULK FEEDS
Separate vibrators permit dribble feed to continue after bulk feed shuts off; attains accuracy of ½ unit per package!

HIGH-SPEED OPERATION
Because of the above features, Mercomatic Scales will operate not only with greater accuracy but also at higher speeds.

WRITE NOW!

MERCURY HEAT SEALING EQUIPMENT CO.

2601 N. HOWARD STREET • PHILADELPHIA 33, PA.



A NEW SOURCE! NATURAL CITRUS FRUIT FLAVORS

from Florida & California

MINUTE MAID® SUN-FILLED® CITRUS OILS

Florida and California All-Valencia Orange Oils, Cold Pressed, U.S.P. • California Lemon Oil, Cold Pressed, U.S.P. • Florida and California Grapefruit Oils, Cold Pressed • Florida Lime Oil, Cold Pressed • Florida Tangerine Oil, Cold Pressed

Guaranteed purity! Confectionery and bakery manufacturers are finding SUN-FILLED citrus essential oils unmatched for adding rich, full-bodied natural citrus fruit flavor and aroma to candies and pastries. They're 100% pure . . . produced and packed under U.S.D.A. inspection . . . protected against adulteration and sophistication by tamper-proof seals.

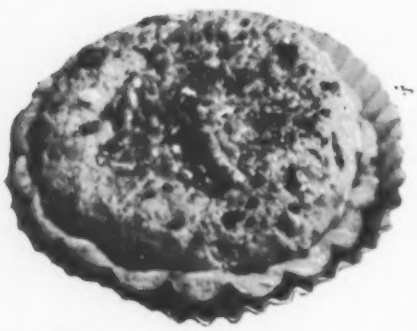
Guaranteed quality! Minute Maid's strict quality control assures uniform high quality batch after batch. When you buy SUN-FILLED you buy the very best! And you have a choice of SUN-FILLED's complete line of cold pressed citrus oils, from both Florida and California.

Guaranteed supply! Minute Maid's extensive citrus groves in Florida are becoming an increasingly important source of citrus oils. They're a source you can rely on both now and in the future. Remember too, that Minute Maid is America's largest producer of citrus products. SUN-FILLED citrus oils are shipped in 35-lb. tins and 385-lb. drums. Free samples are available from your dealer, or by writing to:

CITRUS PRODUCTS DIVISION
MINUTE MAID CORPORATION
Orlando, Florida

Favorable prices on "fine steel cut" almonds now

(actual size photo)



FOR TOPPING BAKERY ITEMS, or use in fillings to "glorify" cakes, cookies, tarts, sweet goods.

We've sold TONS of small and medium steel cut (and large), but somehow buyers have overlooked our smaller-size "fine" steel cut. It's a wonderful item, just right for dozens of uses in bakeries, candy shops and ice cream plants, but . . . let's face it . . . we must balance our inventory of the various sizes of steel-cut almonds. If you can use "fine steel cut" we can offer attractive prices while present stocks last. The photo shows the actual size of the almond particles. Call your Blue Diamond representative or write us.

BLUE DIAMOND ALMONDS

CALIFORNIA ALMOND GROWERS EXCHANGE

P. O. Box 1768, Sacramento 8, Calif., Sales Office at 75-35 31st St., East Elmhurst, L. I., New York

FOR ICE CREAM TOPPINGS OR COATINGS. Use "fine steel cut" for stick confections, nut rolls, sundae toppings.

FOR CANDY TOPPING AND FILLING. You'll find dozens of ways "fine steel cut" can lend sales appeal in (and on) candy items.

Mars markets 5c bars in poly

Mars started shipments early this month of ten-packs of their nickel bars in poly bags. These packs, with header labels, are designed for sale at 39¢, for all types of retail outlets. A case of 24 bags is priced at $7.56, giving a direct buyer a percentage of just under 20% on a sale price of 39¢.

Milky Way, Snickers and 3 Musketeers bars are presently available in these ten-packs, with Forever Yours and Coconut to be added later.

The shipping case is two color printed, and designed for conversion into a display by cutting it open on marked lines.

The unprinted bags are bought by Mars, and hand filled. A heat seal label is then applied to close the bag.

Reese to expand facilities

Reese Candy Co., Hershey, Pa. is planning to construct a $1 million unit at Smith Falls, Ontario. The company has purchased nine acres there, across the road from Hershey Chocolate Corp. property. Hershey also contemplates construction there. An underground pipeline between the plants is planned which will carry fluid chocolate to the Reese plant.

Confectionery and Chocolate sales over $109 million in December

Sales of confectionery and chocolate products in December last year are estimated at $109.2 million. This is an increase of 1% above December 1959. Estimated industry sales for the year were up 3% compared with 1959.

Manufacturing retailers annual sales were up 3% over 1959, as were manufacturing wholesalers.

Chocolate manufacturers reported Dec. sales of $12,-330,000 or 12% above Dec. 1959. Annual sales in 1960 for this group were 7% above the previous year.

Largest sales for the year were in package goods made to retail at $1.00 or more per pound. Value of these were up 10% above 1959. Dollar value of bulk goods, including penny goods, jumped 8% above the previous year, and 5c and 10c specialties were up 6%.

Item	Estimated sales of current month and comparison: Dec. 1960 ($1,000)	Dec. 1960 from Dec. 1959	Estimated sales year to date: 12 months 1960 ($1,000)	Percent change from 12 mo. 1959
Confectionery and competitive chocolate products, estimated total	109,201	+ 1	1,188,771	+ 3
BY KIND OF BUSINESS:				
Manufacturer-wholesalers	80,192	(2)	951,315	+ 3
Manufacturer-retailers[1]	16,679	— 3	80,032	+ 3
Chocolate manufacturers	12,330	+12	157,424	+ 7
TOTAL ESTIMATED SALES OF MANUFACTURER-WHOLESALERS BY DIVISION AND STATES				
New England	11,297	+ 1	106,753	+ 3
Middle Atlantic	19,814	+ 1	278,727	+ 6
N. Y. and N. J.	11,163	— 1	164,694	+ 2
Pa.	8,651	+ 2	114,033	+11
East North Central	28,934	+ 1	357,256	+ 1
Ill.	23,901	— 4	313,512	(2)
Ohio and Ind.	3,715	+46	30,685	+25
Mich. and Wis.	1,318	+ 4	13,059	— 6
West North Central	4,636	—22	43,852	(2)
Minn., Kan., S. Dak., and Neb.	2,679	—19	25,954	+ 2
Iowa and Mo.	1,957	—26	17,898	— 3
South Atlantic	3,845	— 5	48,363	+ 2
Md., D. of C., Va., W. Va., N. Car., and S. Car.	1,797	— 1	20,598	+ 3
Ga. and Fla.	2,048	— 8	27,765	+ 1
East South Central: Ky., Tenn., Ala., and Miss.	1,793	— 4	21,662	— 4
West South Central: Ark., La., Okla., and Tex.	2,569	— 1	28,734	+ 8
Mountain: Ariz., Colo., Idaho, N. Mex. and Utah	1,639	+16	11,354	+ 3
Pacific	5,665	+18	54,614	+ 3
Calif.	4,484	+25	43,423	+ 2
Wash. and Ore.	1,181	— 5	11,191	+ 8

[1]Retailers with two or more outlets.
[2]Less than 0.5 percent change.

Type of product[1]	December 1960: Pounds (1,000)	Value ($1,000)	12 months Pounds (1,000): 1960	Percent change from 1959	Value ($1,000): 1960	Percent change from 1959
TOTAL SALES OF SELECTED ESTABLISHMENTS	106,104	44,798	1,370,752	+ 3	557,921	+ 2
Package goods made to retail at:						
$1 or more per lb.	6,566	7,130	52,190	+12	56,546	+10
$.50 to $.99 per lb.	9,790	5,045	128,854	+ 5	66,911	+ 2
Less than $.50 per lb.	15,247	4,034	215,619	— 4	57,810	— 5
Bar goods	45,324	18,497	601,270	+ 2	245,321	— 1
5¢ and 10¢ specialties	11,786	5,309	158,956	+ 4	71,319	+ 6
Bulk goods[2]	17,391	4,783	213,863	+ 8	60,014	+ 8

[1]Selected group of large manufacturer-wholesalers and chocolate manufacturers report sales by type of product. Companies reporting such detail account for approximately half of the total dollar sales of manufacturers.
[2]Includes penny goods.

Data from monthly *"Current Industrial Reports"* of the U. S. Department of Commerce.

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WILD STRAWBERRY

A truly masterful reproduction of the popular but so far illusive Wild Strawberry flavor. Not too ripe or too green Verona's Wild Strawberry is available in both oil and syrup soluble form.

Prove It For Yourself

When requesting samples, please indicate the type product being manufactured.

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DEPARTMENT OF VERONA AROMATICS

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Branch Office:

208 N. WELLS STREET, ROOM 200, CHICAGO 6, ILL., TEL: CENTRAL 6-5815

VERONA

REGISTERED TRADEMARK

Profits

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Profits up for Fanny Farmer

Both profits and sales for Fanny Farmer during the first six months of their fiscal year (July 3 through Dec. 31) ran higher than for the same period the previous year. Net profit was $358,000 in the '60 period, compared with $345,000 in 1959. This is an increase of 3.8%.

Six months sales in '60 were $10,736,527 compared with similar period sales in '59 of $10,340,247.

On December 31, the firm had 410 shops in operation. In the first half of the company's fiscal year, 11 shops were opened, three closed. Since Dec. 31 the company has added 78 new agencies, a total of 1,245.

Boyer building addition

An addition to the factory of Boyer Candy Company has been started, and completion is expected in April. The two story addition will be used for factory operations and warehouse space.

The firm has recovered completely from a $70,000 fire it suffered this past summer. Much of the loss was of completely finished candy stocks ready for shipment.

Huston buys chip plants

The Tom Huston Peanut Company has acquired, by purchase and merger, the potato chip plants in Knoxville, Tennessee, and Roanoke, Virginia, of Tom Black, Inc., of Virginia.

Maud Muller opens second self-service shop

The Maud Muller Candy Company recently opened a new self-service candy shop in the Forest Park Plaza Shopping Center in Dayton, Ohio, the firm's second.

The new shop will have some self-service improvements developed as a result of experience with the first store. This will be the first store with the company's new color scheme of white, gold and turquoise.

Candy Brokers Assoc. organized

The Candy Brokers Association has been recently formed from a predecessor group, the Candy Salesmen's Council of America. At the organizational meeting an executive secretary was elected, L. Blaine Liljenquist. Mr. Liljenquist is an experienced association executive, most recently serving as vice president and Washington representative of the Western States Meat Packers Association.

The Association elected officers and directors to serve until the annual meeting, July 22, 1961. The officers are B. Albert Fowler, Al Fowler & Co., Chicago, president; Albert A. Lublin of Lublin-Sugarman & Company, New York City, first vice president; Adrian C. Sunkel, A. C. Sunkel & Company of New Orleans; and Ralph J. Lee, Ralph J. Lee Sales Co., Oak Park, Illinois.

Active membership is open to candy brokers; salesmen employed by candy manufacturers may take out affiliate membership at one-half the dues rate but may not vote or hold elective offices.

Miller & Heinz Productions

Edward N. Heinz, Jr. (left) Food Materials Corp. and Samuel C. Miller, Peerless Confection Co., co-chairman and chairman, respectively, of the NCA Dinner Dance committee go over lyrics to "Candy Follies".

The show is being planned for the dinner dance which climaxes the 78th Annual Convention of the National Confectioners Association, June 15, in the Grand Ballroom of the Conrad Hilton Hotel, Chicago.

Special lyrics and music have been prepared for "Candy Follies", which is the brainchild of Miller and Heinz.

Other members serving on the committee are: Nello V. Ferrara, Ferrara Candy Co.; William J. Lavezzorio, Peanut Specialty Co.; Ira Golan, Flavour Candy Co.; William J. Gorfinkle, J. O. Whitten Co., Inc.; Edward F. Gaebler, Stevens Candy Kitchens, Inc.; Duane Tiger, The Hubinger Co.; Russell D. Franklin, Stuckey's, Inc.; and Harold Van Zyl, The Curtiss Candy Co.

Special courses on candy production scheduled for Germany

The Central Technical School, Solingen-Grafrath, Germany, is offering a series of short courses on candy production, and marketing in various countries.

With the cooperation of various equipment manufacturers and suppliers to the industry the courses have been designed to provide both practical and theoretical know-how.

Beginning April 5 through the 7th, lectures and demonstrations in the aerated lines course will cover such topics as: aeration in confectionery, products for depositing in starch (marshmallows, chocolate centers), products produced by forming, various types

Continued on page 52

flavor:

without it lollipops and carrot tops would taste the same.

Flavor not only establishes the identity of your candy but its **reputation** as well... and the candy manufacturer cannot afford to trust his business to anything but the most wonderful of flavors. Whether a gentle sunny peach, vivid mint or orange is required, the flavor "savoir faire" of the D&O chemists is at your service.

DODGE & OLCOTT, INC. Seventy-five 9th Avenue, New York 11, N.Y.

FLAVOR BASES • ESSENTIAL OILS • AROMATIC CHEMICALS

the Manufacturing Confectioner

with International Confectioner

Contents

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SALES-WINNER!

Hershey's steps up to Du Pont "K"* cellophane, speeds up sales of colorful bite-size candies

New, improved products *demand* a new look. But Hershey-Ets demanded even more—maximum visibility, sales appeal, extra protection and durability, top machine performance and printability. The choice: premium-performance Du Pont "K" cellophane. The result: a quality showcase, climbing sales. And the colorful 6-in-1 multi-pack increases units of sale . . . is extra-convenient. Is there an idea here for you? Talk to your Du Pont Representative or Authorized Converter.

Package more profitably.
Du Pont Co., Film Dept.,
Wilmington 98, Delaware

DU PONT
Better Things for Better Living
. . . through Chemistry

K CELLOPHANE

The sweet and the sour

WHAT'S THE GOAL?

Take a look at the design at right.

Completely divorce yourself from any identity with it for a moment. Contemplate it. Now, clearly and honestly ask . . . and answer yourself, "what is it"; "what does it mean?"

Does the meaning stick out . . . clearly defined as a goal post defines football? Does it mean National Canners Association? No Cars Allowed? North Carolina Alliance? New Caledonia Alphabet?

You don't know? . . . That is the **new emblem** of the NATIONAL CONFECTIONERS ASSOCIATION. That is the emblem carefully planned, carefully executed which will stand as a symbol of the United States candy industry. That is the sign which the public . . . it is hoped . . . will come to recognize as "quality of candy". That is the symbol through the use of which, members of the NCA will promote greater use of candy. Will they? Will it sell candy?

We don't think so. And we don't think so for the following reasons:

1. **Obscurity.** When a symbol (or emblem) is not clear unto itself but each element has to be explained to a very busy, purchase-this, bewildered consuming public in 25 words or more, can it be considered good? Will they listen long enough?

2. **Meaningless.** The public understands, as an example, CBS for they see it or hear it many times each day. But never once has CBS ever explained its symbol to the public. Too, its a sure-fire thing that the man on the street couldn't even tell you what the symbol for CBS is. Millions of dollars have been spent to promote CBS; the symbol of the eye in the circle is thrown in as a quick identifying mark.

Many of you remember NRA, but how many know there is still an NRA today? There is . . . the National Restaurant Association. This group has decals for members' windows which carry the legend, "Member of the National Restaurant Association"—not just NRA.

The confectionery industry has several "barber poles" around which to build a design that would be readily identifiable by the public; namely, candy cane, lollypop, box of assorted chocolates, candy bar, etc. . . . . each recognized by the public . . . . each meaningful. Certainly an artist could make a composite of these industry "trademarks". (An NCA on a candy cane would certainly create clarity.)

3. **Archaic.** This is a jet age. Design today is streamlined. There's motion in the curves of the new cars, in the rockets, missiles, the new telephones, lamps, furniture . . . . everything the consuming public uses. This is an era of movement. Movement is an important part of design in product and packages. Contrariwise, the NCA symbol would very well grace the chest armor of a Round-Table Knight.

It is extremely unfortunate that the insignia of NCA could not be truly symbolic of candy . . . . candy as the consuming public knows it.

Even though the industry is composed of different types of producers, surely one composite could have been designed which would have represented each type, and would have shown each in the proper light . . . the light in which the consuming public sees them . . . . as candy, be it hard candy, candy bars, chocolates or what have you?

Confections are the big thing to sell; candy is the thing to push, not a symbol! That is, in our opinion, what the NCA should promote.

STANLEY E. ALLURED, Editor

When it's orange they want, give them full orange flavor

Don't cut corners here! When *less* than one ounce of orange oil can glorify—or ruin—a hundred-pound batch of cream centers, why gamble?

Insist on the one and only orange oil that is always cold pressed and bulk-blended from California's best oranges. It's packed in tamper-proof containers and guaranteed uniform by the Sunkist Growers—*Exchange Brand Orange Oil, U.S.P.*

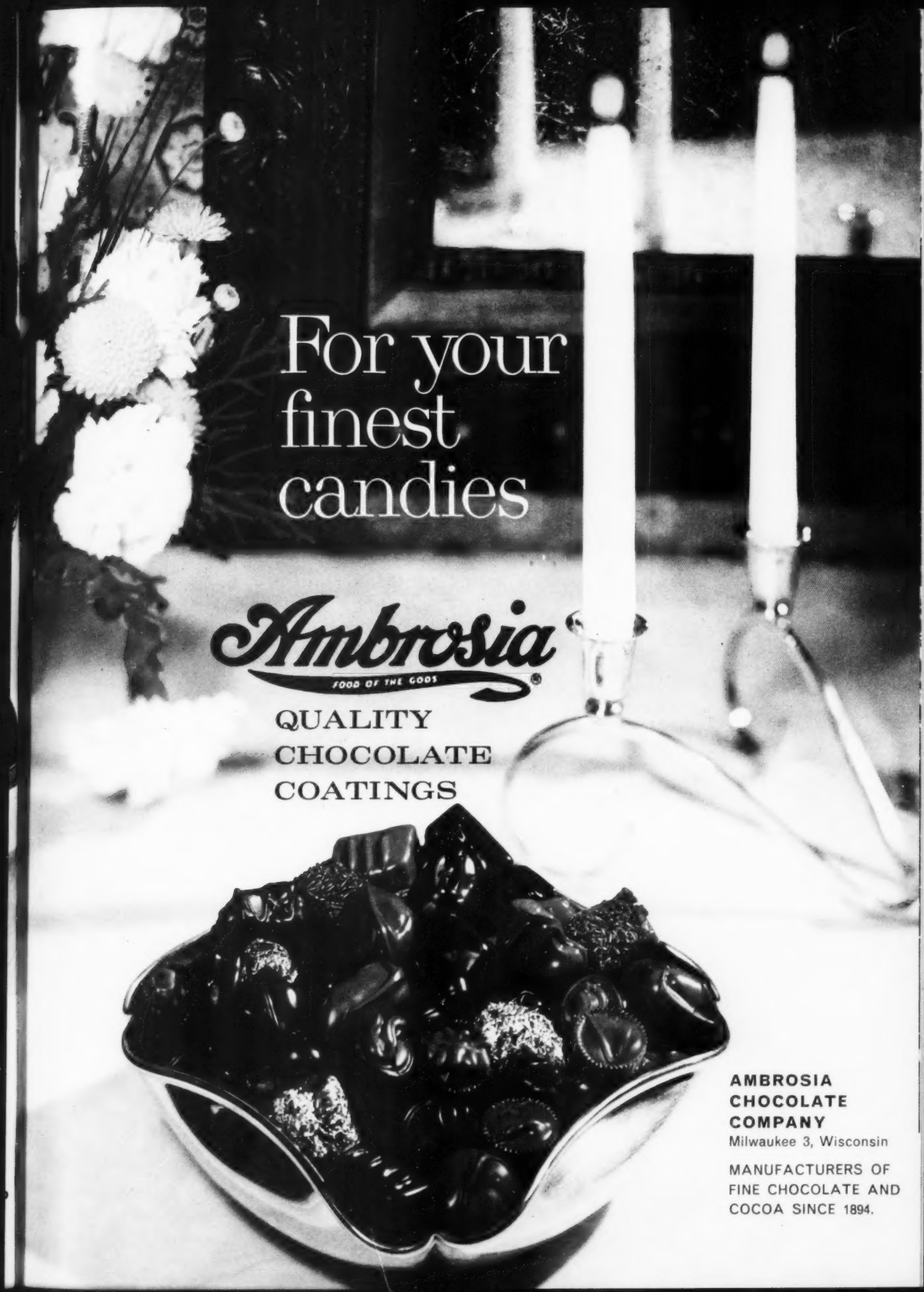
Sunkist Growers

Products Sales Department, Ontario, California

Exchange

ORANGE OIL, U.S.P., CALIFORNIA COLD PRESSED

Exchange Brand Orange Oil is distributed in the U.S. by Dodge & Olcott, Inc.; Fritzsche Brothers, Inc.; Ungerer & Co.


For your finest candies
Ambrosia
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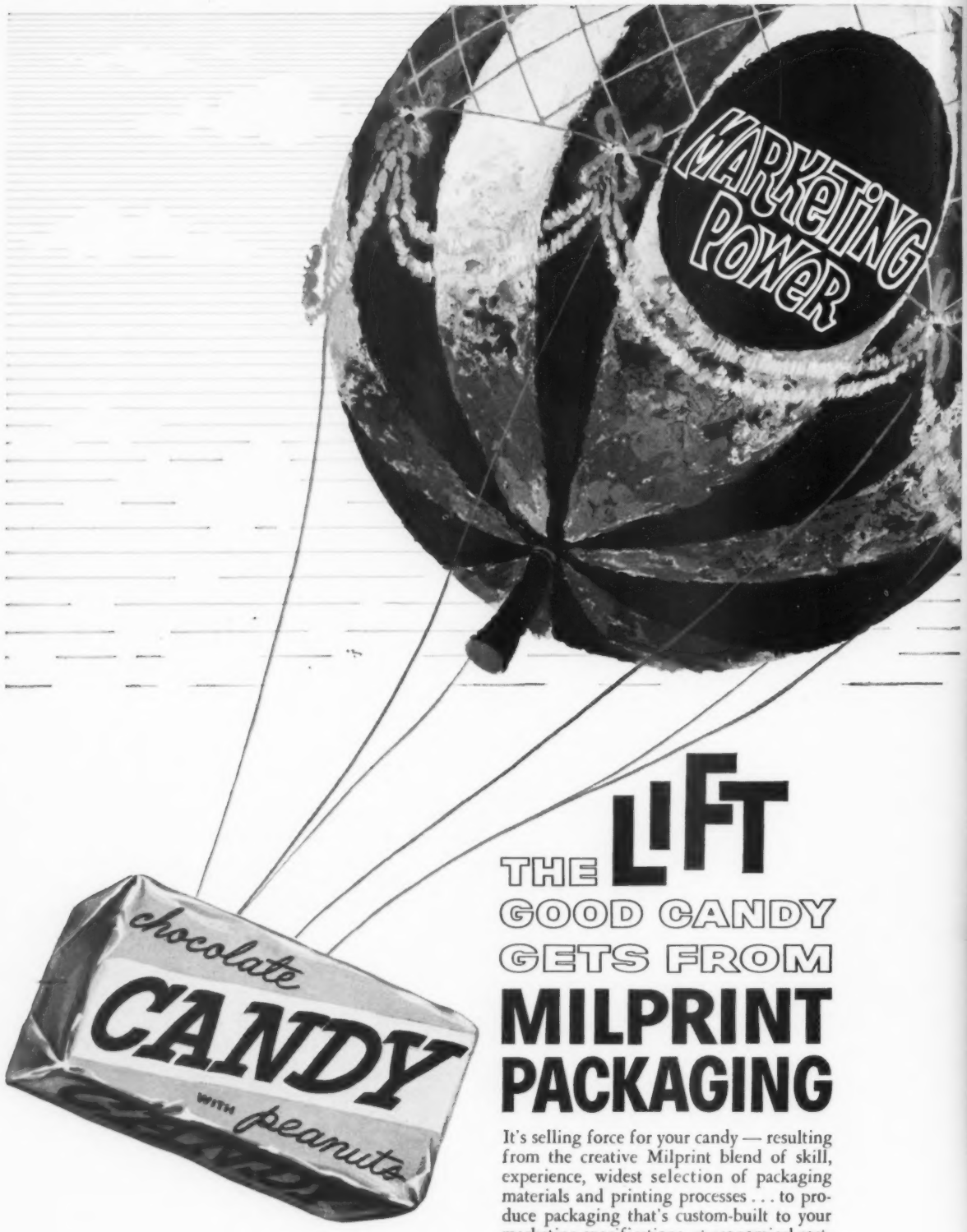
Milwaukee 3, Wisconsin
MANUFACTURERS OF FINE CHOCOLATE AND COCOA SINCE 1894.



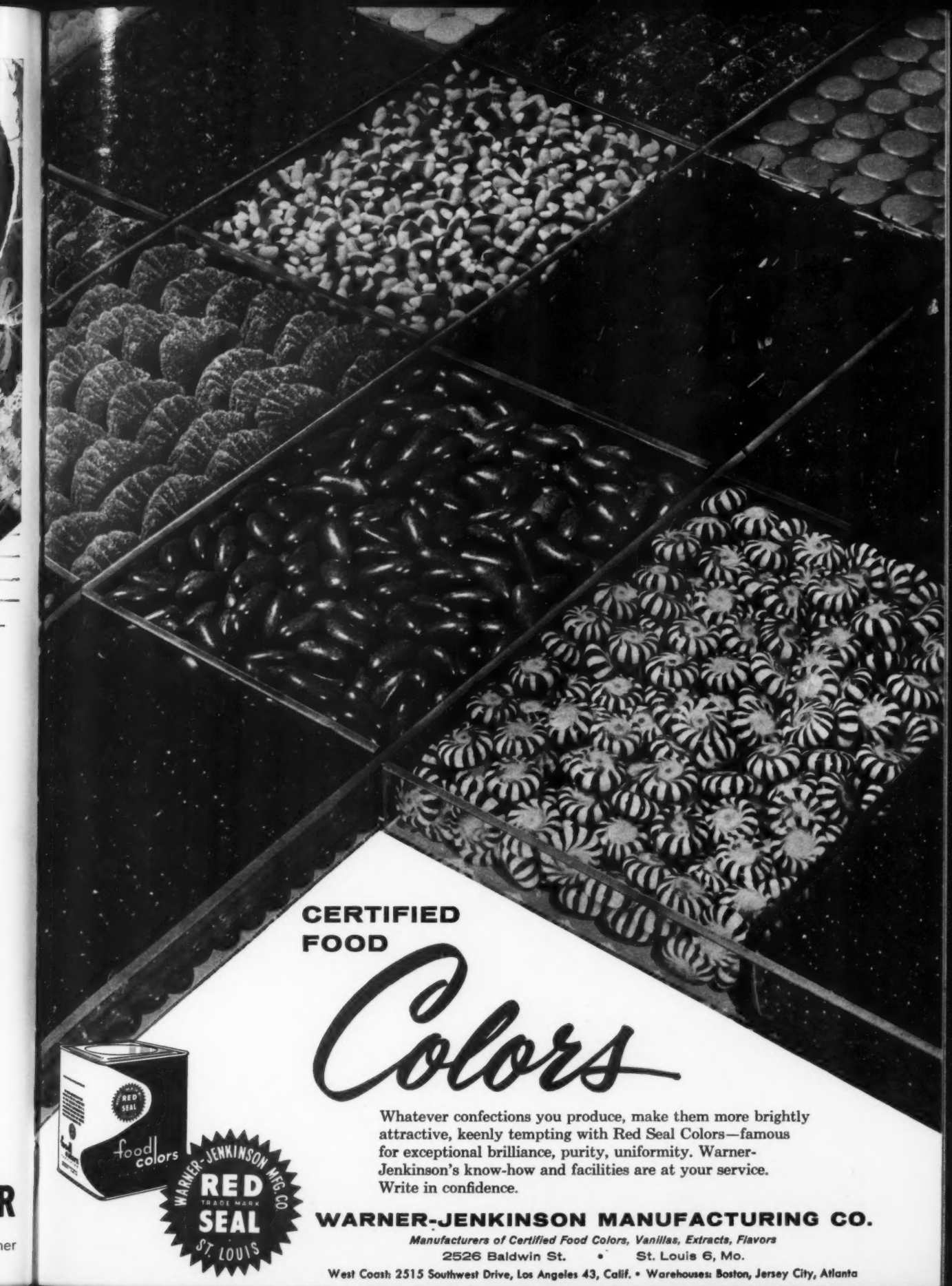
THE LIFT GOOD CANDY GETS FROM MILPRINT PACKAGING

It's selling force for your candy — resulting from the creative Milprint blend of skill, experience, widest selection of packaging materials and printing processes . . . to produce packaging that's custom-built to your marketing specifications, at economical cost.

Get ahead . . . stay ahead! Review your packaging regularly with Milprint experts!

Milprint, Inc. General Offices, Milwaukee, Wis. Sales offices and plants conveniently located across the nation.

MILPRINT PACKAGING gives your product **MARKETING POWER**



Whatever confections you produce, make them more brightly attractive, keenly tempting with Red Seal Colors—famous for exceptional brilliance, purity, uniformity. Warner-Jenkinson's know-how and facilities are at your service. Write in confidence.

WARNER-JENKINSON MANUFACTURING CO.

Manufacturers of Certified Food Colors, Vanillas, Extracts, Flavors

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WRAPS TWO DIFFERENT STYLES —*SIMULTANEOUSLY*— AT SPEEDS UP TO 600 PER MINUTE

Otto Haensel's HBX High Speed Candy Wrapper applies *twist* wraps, *sacchetti* wraps, *basket* wraps, *crimp* wraps and *bunch* folds to solid, filled and chocolate coated candies — and it's the only machine in the world that applies a crimp wrap with an inner wrap. It puts different types of wraps on different kinds of candies simultaneously. And it wraps two candies at a time, operates at infinitely variable speeds from 150 to 300 rpm, wraps up to 600 per minute. Two machines operating together will produce four different wraps with four different flavors to make the perfect assortment.

Drastically reduces time and labor costs, too. And its patented device that keeps understrip shorter than outer wrap cuts material costs up to 15 percent. Easily adaptable to your specific needs — wrapping your products with surprising speed and versatility and at surprisingly low costs.

WRITE FOR LITERATURE.

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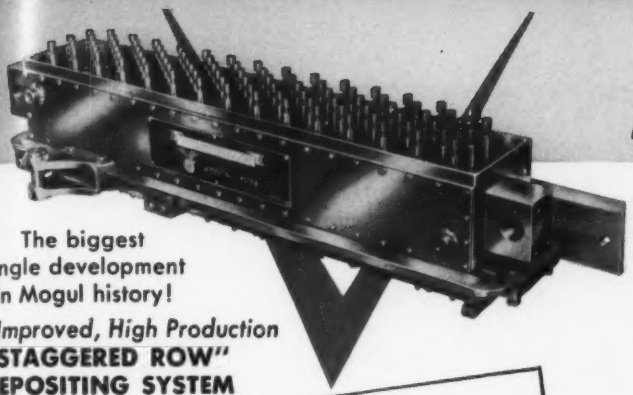

The biggest single development in Mogul history!

New, Improved, High Production
"STAGGERED ROW" DEPOSITING SYSTEM

70% INCREASED PRODUCTION

- **No extra labor!**
- **No extra trays!**
- **No extra starch!**
- **No extra starch drying!**
- **No extra floor space!**

NEW ENGLAND CONFECTIONERY COMPANY
254 MASSACHUSETTS AVENUE
CAMBRIDGE 39, MASSACHUSETTS

OFFICE OF THE PRESIDENT

November 22, 1960

Mr. Herman Greenberg, President
National Equipment Corporation
153 Crosby Street
New York 12, N. Y.

Dear Mr. Greenberg:

Based on our initial purchase of a National Equipment staggered row pump in 1957 and the full realization of savings of 70%, we acquired four additional pumps in 1960.

With these, we are able to produce as much work on two moguls as was previously possible on three. Not only does this mean substantial labor savings, but through these pumps we were able to consolidate our two mogul departments into one, with important space earnings as well.

Today, as never before, we live in a world of new ideas, and because of the competitive pace there is an ever increasing need to adopt and grow with these new concepts.

Sincerely yours,
J. M. Whittaker

J. M. Whittaker
PRESIDENT
New England Confectionery Company

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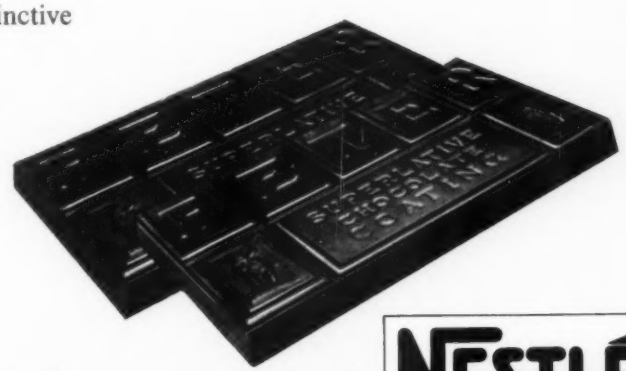

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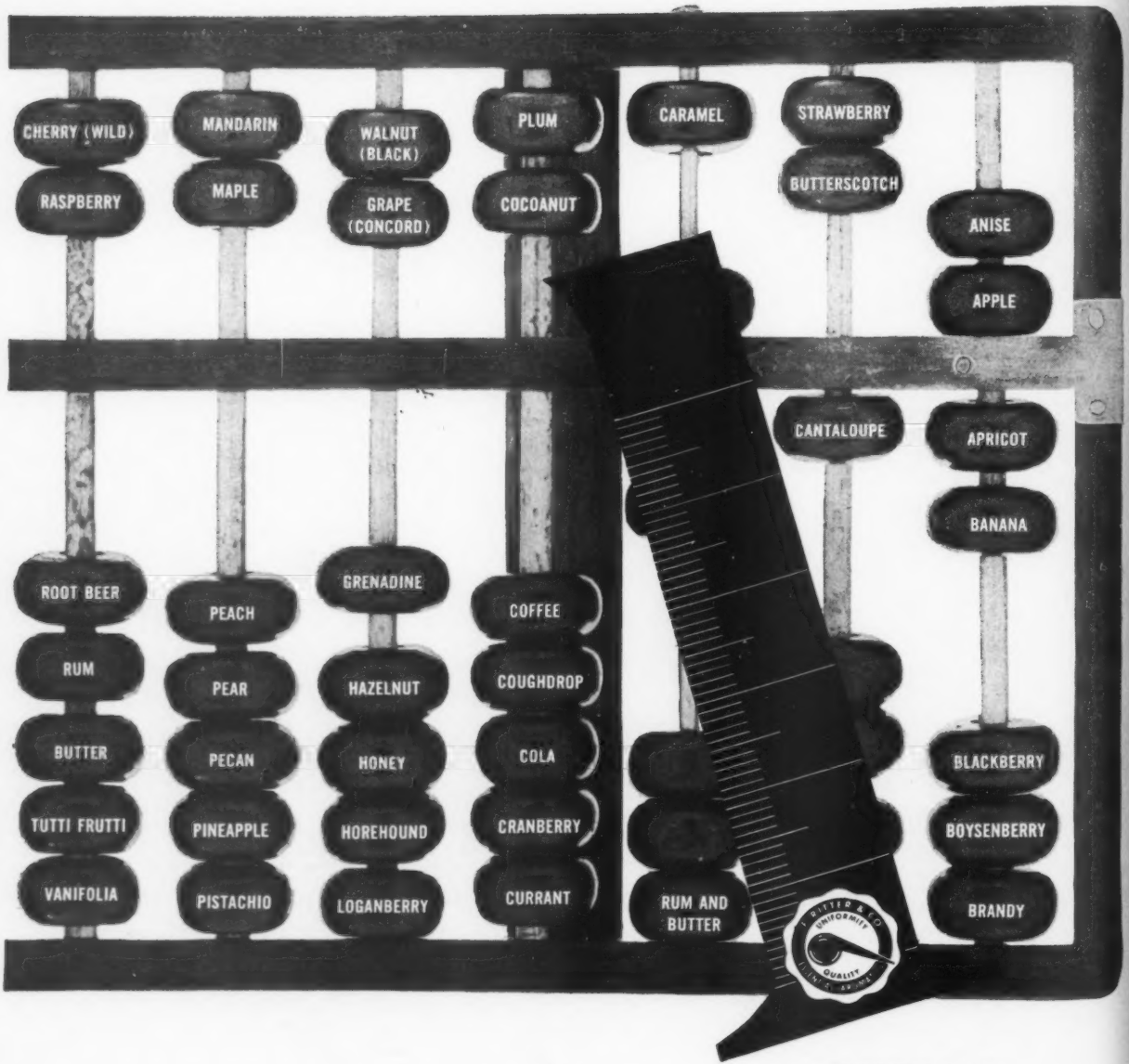

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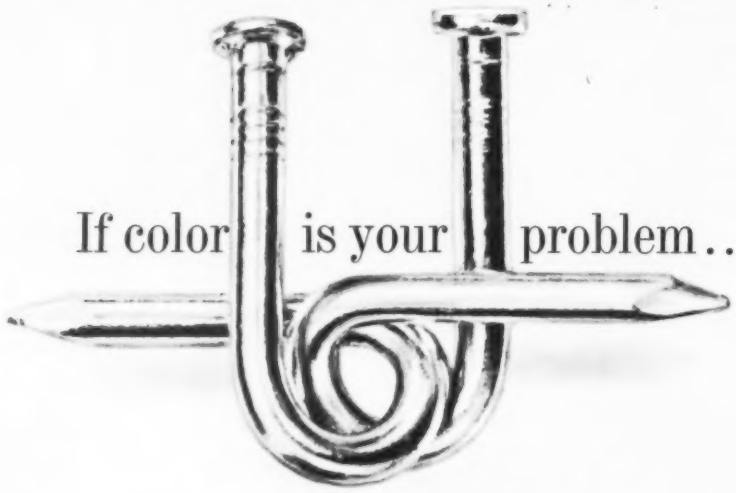

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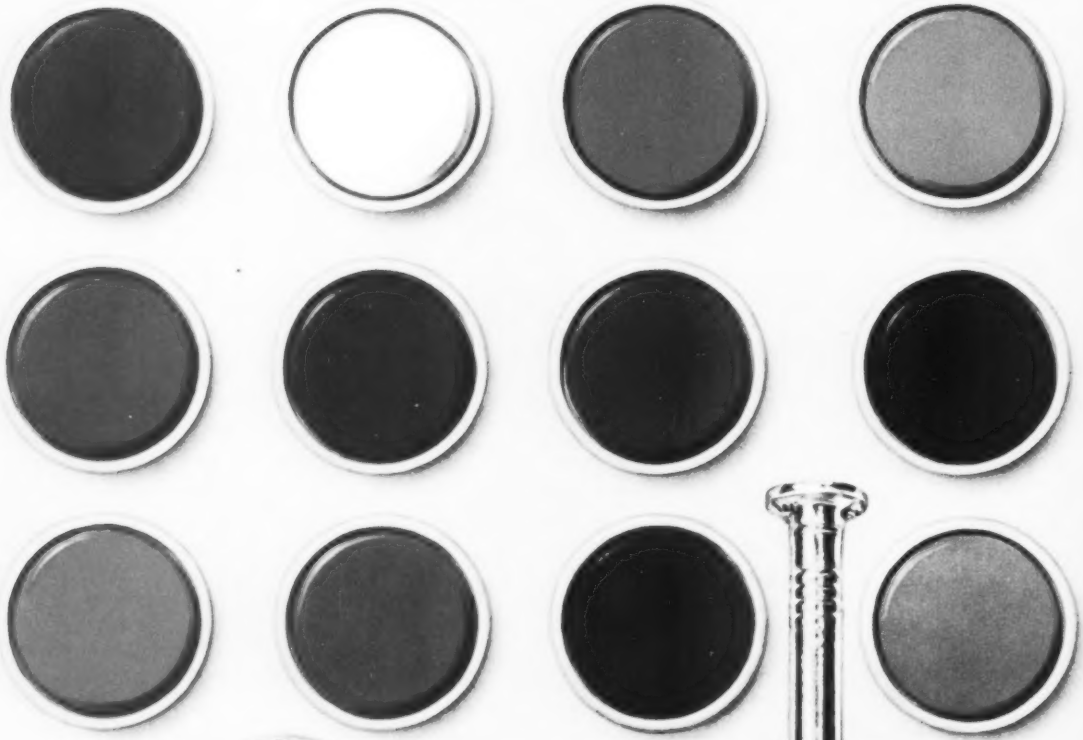

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the Manufacturing Confectioner

March, 1961

Volume XLI—Number 3

how agricultural research benefits YOUR BUSINESS

by
MACK F. STANSBURY AND PAUL R. DAWSON
Southern Regional Research Laboratory,[1] New Orleans, Louisiana

The CONFECTIONERY INDUSTRY is one of our important food industries. Confections are reportedly distributed through more retail outlets than any other type of food. The total annual value of retail sales of confectionery products in the United States is in excess of two billion dollars, exceeding the amount spent for either soft drinks or ice cream.

In past years the making of confectionery products has been an art to a greater extent than in most other modern food processing operations. Within the last several decades, however, the enormous impetus of science and technology has had its effect on the confectionery industry. The art is gradually being replaced by scientific principles and technology—and candymaking is becoming more and more a science. Agricultural research has played a role in this needed and desirable change, and has greatly increased efficiencies in agriculture thereby providing abundant quantities of raw materials for the confectionery industry at low cost.

Beginning in 1943 and continuing up to the present time, the National Confectioners' Association and the Southern Division have cooperated in research relating to confectionery products at the Division's Southern Regional Research Laboratory in New Orleans, La. For the most part, this research has been concerned with the development and evaluation of new candy formulations containing various fruit products and new milk products; production and study of the properties of confectioners' fats, including cocoa butter-like fats, slab oils, and related materials; and investigations of moisture balance in candies and permeability of chocolate and confectioners' fats to moisture, as a basis of improving keeping qualities of candies.

Starch jellies

In research on tenderness and shelf life of starch jellies, much was learned about the effect of emulsifiers on these characteristics of the candies. None of the nutritive emulsifiers investigated satisfactorily maintained tenderness and appreciably improved shelf life. The answer to the problem may not be the addition of synthetic emulsifiers. The experiments led Professor Sterling at the University of California to con-

[1] **One of the laboratories of the Southern Utilization Research and Development Division, Agricultural Research Service, U. S. Department of Agriculture. Other USDA laboratories at which research, presented in this article, was accomplished are located at Wyndmoor, Pa.; Albany, Calif.; and Peoria, Ill.**

duct some valuable fundamental work on starch jelly properties.

Cranberry cordials

A new type of cordial, in which cranberries are used in place of the usual maraschino cherries, was developed in the research. This added a distinctive new flavor to the cordial line. The idea of using plumped cranberries in cordials was originally suggested by researchers at the Unversity of Wisconsin, who were advised to develop cranberries suitable for use in the new type cordial. Commercial "Cransweets" came on the market about five years ago.

Antioxidants

An investigation was carried out for several years on the use of antioxidants to stabilize fats in candies, as a means of increasing quality and shelf-life. Antioxidants were necessary only when dairy butter or animal fats were used. It was found that brewer's yeast is a natural, nutritive ingredient that supplies ample antioxidant protection for the animal fats. The Brewer's Yeast Council contributed financial support.

Calcium carbonate

Other studies disclosed that food grade calcium carbonate (U.S.P.) is useful in improving the properties of molding starch. At least one manufacturer uses about 15% in his starch for regular mogul operation, and others have undoubtedly adopted the improvement. Trial commercial batches of fudge have been grained by adding about 2% of calcium carbonate without preparation of a separate fondant to produce candy of excellent texture. Several manufacturers are using the same percentage to fix the color in striped mints and stick candies.

Whey for caramels

Unusually fine caramels were produced experimentally by using a proportion of dry, sweet whey with the dried nonfat or whole milk. The whey contributes more lactose milk sugar and less protein, and results in caramels of improved texture and keeping qualities. About five years ago an excellent dry, sweet whey was developed by a manufacturer of casein. In cooperation with several candy manufacturers and suppliers of the whey, the optimum proportion of whey and the best formulas for the caramels were established.

Moisture balance

Considerable research was conducted on moisture balance in candies, because moisture balance is an important factor in the poor keeping quality of so many candies. The relative humidities in which different candies will not lose or gain moisture and retain desirable properties were studied, and valuable information was obtained. Pertinent to this problem are the complete data on solubility of mixtures of sugars formed in a highly inverted fondant, established in research several years ago in the sugar industry. These data explain why dextrose and sugar crystallize when water is boiled off in cooking some creams and fondants. The concentrations of the sugars in the sirup can be calculated and used to predict the gain or loss of moisture in storing the candies at various humidities.

Slab oils

The search for suitable nutritive slab oils to replace mineral oil has continued since the cooperative research began. Two particularly promising slab oils have been developed up to the present time. Butyl stearate, produced commercially by several manufacturers, was found to work perfectly in experiments on laboratory slabs. No rancidity develops in candies made with this lubricant even after long storage at high temperatures. Candy manufacturers plant tested the new slab oil and reported good results in lubricating fondant pans. More recently, a fat product consisting essentially of a mixture of dibutyropalmitins and dibutyrostearins was prepared. It has outstanding resistance to rancidity and many other properties desired in a slab oil. Preliminary evaluations of this slab oil by confectioners have been quite encouraging.

Hard butters

Good progress has been made in research to develop cocoa butter-like fats from domestic oils as possible replacements for cocoa butter. The research has been supported in part by the N.C.A. and, at one time, by the Quartermaster Food and Container Institute. Several cocoa butter-like fats have been made, some on a pilot plant scale from completely hydrogenated cottonseed oil and a triolein product (or olive oil), and their properties studied. Evaluation of the fats by confectioners in coating formulations indicated that they were satisfactory in some respects, but did present some difficulties in tempering and demolding. Very recent work indicates that the small amounts of high-melting trisaturated glycerides whose presence in the products cause the difficulties, can be suitably removed by special tempering and crystallization procedures. An important phase of the work has been a systematic study of the physical and chemical properties of cocoa butter and confectionery fats, and their components. This has given us a better understanding of these materials and their behavior in various confectionery applications.

Moisture loss through coatings

Investigations of the permeability of chocolate, cocoa butter and other fats to moisture gave much information which will be useful as an indication of the performance of these materials in enrobing or coating formulations, and as an aid in obtaining the best possible performance from currently used fats and in developing improved confectionery fats. Hard-

ness is another important index in the performance of confectionery and other fats. A new instrument and technique were developed for determining precisely the hardness and softening characteristics of fats and waxes, and used to study the effect of composition and polymorphic form on the hardness of cocoa butter and other fats. (The new instrument, "The SURDD Hardness Tester," is now commercially available from a scientific instrument company). It was found that the hardness of a given sample of fat was influenced by the degree of tempering to which the sample had been subjected; and hardness always increased as the components of a fat were converted to higher-melting polymorphic forms. Conceivably a measurement of hardness might be used to determine whether or not a fat-containing confection has been tempered properly.

Heat resistant coatings

In research supported in part by the Quartermaster Food and Container Institute, it was discovered that if a small amount (up to 10%, based on weight of cocoa fat) of completely hydrogenated cottonseed oil is incorporated in the chocolate of molded bars, the mouthing quality is not affected significantly, yet a marked rigidity is imparted to the chocolate mass at temperatures at which cocoa fat softens and melts. The rate of fat leakage from the chocolate at summer temperatures is greatly retarded in this way, but the desirable melting characteristics and short softening range of the cocoa fat are retained. The addition of small amounts of very hard fats to chocolate should be useful in improving the performance of molded bars for military as well as civilian applications.

Acetoglycerides

New fat and oil products called acetoglycerides were developed. These unique and valuable products are produced by substituting acetic acid for a portion of the fatty acids occurring in ordinary glyceridic fats and oils. Numerous food uses have been suggested for both the acetoglycerides which are flexible, nongreasy solids at room temperature and for those which are liquid. Confectioners have tested various forms of acetoglycerides and claim that these products have a number of potential uses, including the following: As a very thin film over chocolate to prevent sugar bloom; as a component of chocolate type coatings for ice cream bars and related products to control brittleness; as a coating for nuts and fruits to retard moisture transfer and increase shelf-life; and as a glaze.

The Food and Drug Administration recently approved the use of acetoglycerides in nonstandardized foods at levels up to 5%.

New fat products

Unique polyester and polymeric fat products have been prepared which range from liquids to hard fats, and are potentially useful as food coatings, edible plasticizers, lubricants, waxes, and in other applications. Some of these were made by joining diglycerides with short-chain dibasic acids; others by the interaction of fatty acids, short-chain dibasic acids and glycerol. A third type is prepared from long-chain fatty acids and polyols like cellulose, amylose and starch. The chemical and physical properties of the new fat products are being determined to ascertain their best potential.

The chief areas of research at the Eastern Division which are of interest to the confectionery and related industries have to do with fruit essences and concentrates, dehydrated fruit juices, honey, maple sirup, and whey.

Fruit essences

With the development of techniques for the preparation of high quality essence (volatile flavors) and concentrate from apple juice, the value of these products as ingredients in candy was explored. Candy formulations using apple essence, concentrate and pectin were prepared, and samples containing the essence from nine varieties were evaluated by a National Confectioners' Association taste panel. A blend of McIntosh and Stayman Winesap was preferred. Laboratory and commercial tests demonstrated that the essence contributed significantly to the flavor of the pectin gum-type of jelly candy but was not suitable for hard candy due to its relatively high cost and its loss by volatility. Techniques were developed for the recovery of the essence from other fruit juices and the preserve operation in order to meet the commercial demand. The Southern Division prepared candy formulas and samples from apple, grape, and strawberry essence and concentrate for distribution to the trade. Lists of the 27 commercial sources of fruit essences and concentrates were prepared for distribution. Seven commercial candy concerns have used fruit essences and/or concentrates in jelly-type candies.

Methods have been developed for the preparation of dried fruit juice products with the recovered essence returned to them and a dried honey and its recovered essence. It is felt that these have a very real potential value as the basis for interesting confections. They can provide very low moisture products with excellent keeping qualities. The dried honey is essentially a hard candy.

Maple flavored candies

A number of developments, resulting from the Eastern Division's maple investigations, should prove of benefit to the confectionery and related industries. A method has been devised for intensification of maple flavor in sirup which yields a sugar that can be blended with cane

sugar and still retain the pronounced maple flavor. A simple rapid test, developed for analysis of invert sirup in maple sirup to determine its creaming potential, should prove useful in other applications. A manual has been issued containing a large number of recipes for maple confection. Two bulletins, covering the preparation of maple sirup concentrates and maple honey spreads, should be of interest to confectioners.

Whey in fudge

As a result of an extensive Eastern Division program on whey utilization, carried out from 1938 to 1950, some applications to confections were developed. The most important use was in the manufacture of fudge. Fudge formulas, using from 10 to 20% whey solids in the fudge, were perfected. Whey is now used by many confectioners to impart milk flavor, to fix other desirable candy flavors, to give color and well-crystallized body to the fudge.

Improvements were made in dried whey manufacturing processes and a new product, sweetened condensed whey, was developed. Information was published on the use of whey in confections, and formulas for various types of candy which could be made from whey solids were developed.

Pectin jellies

A continuous process for manufacturing jelly has been developed which eliminates many of the difficulties of the batch-type process used for many years. In the continuous process, pectin, citric acid and sugar in solution are metered continuously into the system and mixed with the proper amount of concentrated fruit juices. The mixture then passes through a heat exchanger and is filled into containers. A more uniform product can be obtained and a substantial reduction of labor requirements achieved.

Fruit flavors

A research program on flavors of fruits is being conducted with particular emphasis on orange and lemon flavors. It is generally recognized that, under certain conditions, definite off-flavors in lemon, and perhaps other citrus oils, have been found. Methods for removing compounds that contribute to off-flavors have been developed. Greatly improved lemon oil is currently being marketed as a result of this research.

Research on pectin carried out some years ago at the Western Division led to improvements in methods for extracting and purifying pectin and for standardizing and testing its grade. A basic research program conducted concurrently contributed greatly to understanding the effects of acidity, sugar concentration, sugar inversion, calcium salts, and extent of heating on the behavior of pectin solutions. Methods were developed for manufacturing low-methoxyl pectins which produce gels with substantially lower concentrations of sugar.

Research by the Northern Division on items of interest to the confectionery and related industries lies in three fields—vegetable oils, soybean protein, and starch, and more specifically concerns three products, cocoa butter, "Gelsoy," and starch sponge.

Cocoa butter

In the case of cocoa butter it has been shown that the component glycerides contain oleic acid predominantly attached to the middle carbon with the two end carbons containing palmitic or stearic acid distributed in a random fashion. To confirm the validity of this structure, a synthetic cocoa butter was made from approximately equal quantities of oleic, palmitic, and stearic acid in which the oleic acid was attached to the middle carbon. Melting characteristics of the synthetic cocoa butter resembled the natural product. Exploratory studies are now underway to determine whether the fatty acids from hydrogenated soybean oil can be used to prepare a cocoa butter-like fat.

Soybean protein

In research on soybean protein, a process was developed for making a new product termed "Gelsoy." This is a bland tasting water-soluble protein concentrate that lacks the characteristic beany flavor of ordinary defatted soybean meal which is displeasing to many people. Gelsoy is produced by extracting defatted soybean meal flakes with concentrated alcohol, followed by removal of the alcohol from the flakes by a flash desolventization process. These treated flakes are then extracted with water and the product recovered by spray drying of the extract. Engineering studies have now been completed on this process and the information is being made available to interested industrial concerns.

Starch sponge

An interesting "starch sponge" product was developed in other research. It is readily prepared by cooling a cooked 5-percent paste of commercial corn, wheat, or potato starch to below freezing temperature. When the frozen mass is thawed and pressed, the product readily loses much of the free water. This freezing process so completely insolubilizes the starch that practically no soluble starch is present in the expressed water. By controlling the freezing temperature it is possible to control the pore size of the product; the lower the temperature, the smaller the pore sizes. Upon oven-drying, a crisp brittle product with considerable compression strength is obtained. In its dry state it has a crispness that will impart crunchiness to candies and crackerlike wafers. When shredded it can be incorporated into chocolate candy coatings or candy bars to improve their texture and their ability to withstand extreme variations in temperatures. Squares of starch sponge coated in dipping chocolate make an unusual and pleasing confection.

Confectionery industry needs Continuing Research

The Confectionery Industry has made continuous, significant technological progress in recent decades. A broad research program is needed, however, to develop fundamental scientific information about the basic principles of candy-making to further improve the confections themselves.

Shelf-life and storage

Probably one of the most important and potentially fruitful areas for future research exists in the variety of problems connected with storage and leading to longer shelf-life of candies. Means must be found to reduce the direct loss of returned goods, which amounts to several million dollars a year, and the even more costly loss of customers and per capita consumption. Improved shelf-life would repay many times the cost of research in the confectionery industry.

Some research has been conducted to determine the advantages of controlling both temperatures and humidities in storing different types of candies for extended periods. It is known that gain or loss of moisture is an important factor in affecting texture of many types of candy. Methods for stabilization of texture could be profitably investigated in research on modifications of formulation and processing conditions to produce candies with improved keeping qualities.

Chocolate and cocoa

Another major unsolved problem connected with storage of candy is the cause and prevention of chocolate bloom. More information is needed as to the nature and mechanism of bloom formation, so that effective and practical means can be found to minimize or prevent bloom and thus improve shelf-life of chocolates.

A comprehensive study of the chemical composition of cocoa nibs, and of the materials obtained in successive stages of processing into various types of chocolate, would provide data essential to a scientific approach to the development of better processing methods and improved cocoa and chocolate products. Knowledge of the nonfat portions of these materials would be particularly desirable, to supplement what is known and is being developed on the constitution and properties of cocoa butter.

Sugar reactions

Opportunities for profitable research investigations exist in the field of the chemistry and behavior of sugars in candy production. It is of importance to have a better understanding of the changes undergone by various sugars in the range of conditions used in candymaking. Major lines of future research should deal with the role of sugar anhydrides or reversion products and caramelization reactions in governing the properties of many important types of candy.

Frozen candies

New type confections could be developed to open profitable new markets. Included among these would be new and better summer confections to be marketed between the peak Easter and Christmas seasons, and confections to be marketed as frozen foods, which would be less subject to seasonal fluctuations.

Other research possibilities

There are numerous other types of research that would be beneficial to the industry, as for example the development of optimum conditions for high-speed, continuous cooking methods; the investigation of the problem of hydrolysis of vegetable and animal fats in candies having a high moisture content; application of previously developed information to a more thorough study of starch gels; the development of new edible emulsifiers and modified fats for use in confections; pharmacological evaluation of new synthetic ingredients; and development of instruments and techniques for testing confectionery products.

The research carried out by industry, and by the Agricultural Research Service in cooperation with industry, has produced useful, practical results. But a billion-dollar industry needs a much larger research program—one with an increased intensity of research effort—to take full advantage of the progress modern science and technology make possible today. An expanded research program could be carried out cooperatively, and by individual firms where deemed desirable, to bring about the development that the confectionery industry desires to accomplish in the years ahead.

Novel and interesting candies can be developed by using pastel coatings. However, there are certain fundamental problems connected with their use. Candy Technologist Norman W. Kempf, General Foods Corporation, tells what to do and how. . . .

Confectioner's Coatings Can BUILD New PROFITS

THE TERM "CONFECTIONER'S COATINGS" is applied to coatings having, as a continuous fat phase, a fat other than cocoa butter. They have been widely used in recent years—both as summer coatings and on year-round candy basis.

The standardized product has been well-known for many years, but other variations, not falling under the Standards definition, have appeared on the market. Some of these have no cocoa solids at all, and are generally colored in "pastel" shades. Others contain some cocoa solids, but vary in other respects from the standard. They must be labelled, as confections are, with a listing of all ingredients.

As mentioned in an earlier article on chocolate coatings (MANUFACTURING CONFECTIONER, DEC., 1960), any coating with a continuous fat phase performs several functions:

1. adds flavor to the piece of candy.
2. improves its appearance.
3. provides protection for the center against moisture and flavor loss.
4. gives the piece structural strength.

Because confectioner's coatings are made with fats,

A classification under the Federal Standards for chocolate products entitled "Sweet Cocoa and Vegetable Fat Coating" defines Confectioner's Coatings as follows: (Quoted from Standards 14.12)

"Sweet Cocoa and Vegetable fat, other than cocoa fat, Coating conforms to the definition and Standard of Identity and is subject to the requirements for label statement of optional ingredients prescribed for sweet chocolate, except that:

1. In its preparation, cocoa is used instead of chocolate liquor, in such quantities that the finished food contains not less than 6.8% by weight of the non-fat portion of such Cocoa, calculated by subtracting from the weight of the Cocoa used, the weight of the Cocoa fat therein and the weight therein of alkali and seasoning ingredients, if any, dividing the remainder by the weight of the finished food and multiplying the quotient by 100.
2. In its preparation is added one or any combination of two or more vegetable food oils, fats or stearins other than cocoa fat, which oil, fat, or stearins or combination has a melting point higher than that of cocoa fat. Any such oil or fat may be hydrogenated.
3. The requirement that the Milk constituent solids be less than 12% by weight does not apply."

other than cocoa butter, we must expect some differences in their behavior compared with chocolate coatings. These behavior differences depend upon the nature of the fat used in confectioner's coatings.

In selecting a fat for use in such a coating, bear in mind the four functions it performs. In addition, remember this fat must be able to tolerate as much cocoa butter as is introduced by the cocoa flavoring ingredient. Further requirements are: it must be applicable in conventional equipment used to apply chocolate coatings; and it must possess a shelf-life which will permit manufacture and sale of the candy through conventional channels. Let us consider these functions and requirements individually.

Flavors. Obviously, the fat must have a bland pleasant flavor which does not clash with that of the real flavoring ingredients used in the coating. In addition, it must melt or disperse in the mouth as quickly as cocoa butter, so that it will release the flavoring ingredients and make them available to the consumer's taste buds. This requirement determines the melting point of the fat to be used.

Fortunately, it is possible to obtain commercially, "Hard Butters", suitable for these coatings in several different melting ranges. A fat is available with approximately the same melting range as cocoa butter. Another type has a melting range between 98°F. and 102°F (Wiley). A third type, commonly used by biscuit makers, melts above 112°F (Wiley).

Although it would be desirable, from the point of resistance to heat, to use a higher melting point than that of cocoa butter, every degree in its melting point above body heat reduces the ability of the heat in the mouth to melt the fat and release flavor. Besides any fat not melted or dispersed remains as a "waxy" residue in the mouth, coating the teeth and tongue. For this reason, if a fat with a melting point above body heat is used to obtain better shelf-life, something must be done to assist the mouth in dispersing the fat. Certain emulsifiers have been found to perform this function and are commonly used in such coatings.

Appearance. As with chocolate, the gloss of confectioner's coatings depends upon the manner in which the fat crystallizes when the coating is applied. To obtain a good gloss, a smooth surface is essential, and this can be assured only if the fat crystallizes in small crystals. Furthermore, these crystals must be of the stable type, or the gloss originally obtained will be lost on storage.

Tempering such a coating is, therefore, quite important. Fortunately, most of the fats now used are more easily seeded than is cocoa butter, but complete neglect of the tempering step is very hazardous. Subjecting the liquid coating to a sudden chill, as by using cold water in an enrober jacket, will induce unstable crystal formation and lead to poor contraction on freezing, resulting in poorly retained gloss.

about the author

Norman Kempf, long recognized as a leading candy technologist, is a consultant for General Foods. This basic informational article on Confectioner's Coatings has been preceeded by one on Fats and Oils (Nov., 1960, 25) and Chocolate Coatings (Dec., 1960, 22), each exclusive with *The Manufacturing Confectioner*. As important contributions to the literature on candy making, each article is designed to aid those in candy production who have not had technical training.

Protection for the Centers. It has been found that, as a rule, confectioner's coatings do not provide as good a moisture barrier as does cocoa butter. So-called "high moisture" centers lose their moisture more rapidly than when coated with chocolate.

Much work has been done to determine the cause of this difference in behavior. However, there are so many factors involved that there is still no answer for the exact mechanism of moisture passing through these coatings. There is definite evidence that the size and density of the fat crystals has a large influence on the rate of moisture "leakage" through the coating. It is also evident that the difference in vapor pressure between the center and the ambient air (which is the force that moves the water vapor through the coating) is a large factor.

Moisture "leakage" is such an important factor, that the N.C.A. Research and Development Committee issued a warning to N.C.A. members in 1954 to avoid the use of "high moisture" centers when coating goods with Confectioner's Coatings. It had been established that passage of moisture through these coatings, sometimes was the indirect cause of hydrolytic rancidity of the fat, resulting in a "soapy" taste from the free lauric acid liberated.

Structural Strength. What has been said about the effect of crystal size on gloss and moisture barrier also applies to structural strength. The smaller the crystal, the stronger the coating will be.

To repeat: the fat used must "tolerate" the cocoa butter introduced via the flavoring ingredient. Unfortunately, many lauric acid type fats are "incompatible"

with cocoa butter. This is especially true when a fat is used with a Wiley melting point as much as 8 to 10 degrees above that of cocoa butter. It will be difficult to "temper" the cocoa butter component of such a mixture, unless the two fats crystallize in the same system, which is rarely the case.

A further problem is introduced because two dissimilar fats, when mixed together, tend to form "Eutectics" or combinations with a melting point below that of either of the mixture components. This limits the quantity of cocoa butter which the lauric fat can "tolerate" without serious trouble developing. To avoid this problem, most confectioner's coatings are flavored with cocoa powders of relatively low-fat content.

With these basic facts in mind, it is apparent in applying confectioner's coatings, that every effort should be made to insure seeding the coating with stable seed nuclei, followed by freezing the balance of the fat as rapidly as is consistent with avoiding introduction of any unstable seed crystals. Seeding can be accomplished by cooling the coating to a point about 5° below the Wiley melting point of the fat, then reheating it to the desired application temperature. This may be a few degrees above the Wiley melting point in some of the fats used.

This apparent paradox is created because most of the hard butters contain some stearine. Stearine has a tendency to crystallize from mixtures as a pure fat because of its very high melting point. When such a mixture is remelted at the Wiley melting point, the stearine crystals do not redissolve in the melted fats at once, but remain in crystal form long enough to provide seed material for the other fats as they freeze.

Cooling must be moderate

Once the coating is applied, moderate cooling must be used until the surface fat is frozen. Then, when the surface is frozen, more drastic cooling can be used to complete the setting of the remaining fat.

Obviously, one of the major problems associated with these coatings in the past, has been the danger of hydrolytic rancidity during storage. This danger will exist as long as lauric acid fats are used to make these coatings. It can be minimized, however, by reducing the chances of water reaching the coating, inasmuch as water is an essential ingredient of the hydrolysis.

Another factor aiding this hydrolysis is the presence of lipolytic enzymes, which act as catalysts of the reaction. Every effort must be made to eliminate these enzymes, which may be introduced with the ingredients of the coating, or may get in as the result of vegetation of mold spores. Mold spores alight on the coating with dust from the air.

Recognizing the serious nature of the hydrolytic rancidity problem, N.C.A. has supported basic research to find ways of eliminating it. If the fat used could be made up of long chain (16 or more) carbon atom fatty acids, accidental liberation of the fatty acid would not result in a serious flavor change. Lauric acid fats are used because they have a desirable melting range, created by the relatively short (12 atom) chain of carbons. The same melting range can be accomplished by the proper combination of saturated and unsaturated 18 carbon atom fatty acids within the same glycerine molecules, as is the case with cocoa butter.

NCA research

N.C.A. research is directed toward finding means for producing such a fat, utilizing sources relatively free from lauric acids and shorter chain fatty acids. Lauric acid occurs only in tropically grown fats like coconut oil. Domestically-produced vegetable fats like cottonseed oil, peanut and soya oils contain minimal amounts of short chain carbon atom fatty acids.

Work to date has demonstrated that such a fat can be synthesized in the laboratory, but commercial production has not yet been achieved at a cost which would make it economical for users. However, as facts become available, resulting from the basic research, it is hoped that oil refiners will be able to make use of them to develop satisfactory non-lauric fats for coating purposes.

Pastel-shaded coatings, containing no cocoa powder as a flavor and color, may be made either with cocoa butter or with a hard vegetable butter. Milk solids are commonly used in these coatings for flavor because a coating made only with sugar and fat would be excessively sweet.

The colors used must be lightfast to avoid fading when the candy is exposed for sale. There are three methods of coloring:

1. Dye the solid components with a water soluble dye.
2. Use an oil soluble dye.
3. Introduce a water soluble dye in the form of an emulsion in the fat phase.

There are many opportunities to develop novel and interesting candies by the use of pastel coatings, and there is every indication that increased use for them will be found in the future. This outlook provides extra incentive to search for fats with properties superior to those of the lauric fats now in use.

One of the four James candy stores on the Boardwalk at Atlantic City. Note that store has an official U. S. Post Office sub-station in it. James candy was founded in 1880 and has been at this location since 1905. The Glaser family purchased the business in 1947. Since then three new stores have been opened. Some 250 people are employed.

Say "Atlantic City" to consumers and you spark two thoughts: The Boardwalk and Salt Water Taffy. Both are indigineous to the town and, although it may be questioned which came first, there's no doubt but that the sales push behind the taffy has put it on top. Here's how James'. . .

Regional Product Gets Around

More than 40 candy stores and candy counters along the five miles of boardwalk at Atlantic City sell Salt Water Taffy. Four James stores, located a mile apart, do an exceptional job of cutting the taffy so that it fits right into the mouths of a very large percentage of the 20 million visitors sightseeing along the boards each year. Even on a cold snowy day in January you'll find some fifty employees working at James, as this is a year-round business supported by conventioneers meeting in the huge convention hall on the boardwalk.

Although the James Stores sell the same conventional candies as those sold in Philadelphia, New York, Chicago, or San Francisco, the emphasis in Atlantic City is on Salt Water Taffy.

Visitors can't escape the many billboards, the store windows full, and the displays in store after store.

As you approach Atlantic City by automobile you almost flip when you see the double sized billboards advising you to buy Salt Water Taffy "CUT-TO-FIT-THE-MOUTH" by James Candy Company.

"This is just one in our constant parade of sales plans and ideas that we use to keep increasing our business," says Otto J. Glaser, President. "When we acquired James, in 1947, there was just one store. Now we have four. We have increased our volume proportionately and much of the year we employ up to 250 people."

"Although we are competing with several very fine candy stores, we work together, too," says Otto's brother Henry, who manages the Atlantic City operation. "We have succeeded rather well in a community effort to tie-in Salt Water Taffy with the city and the boardwalk, so that visitors feel that, like peanuts at the circus, hot dogs at the ball game, they must have Salt Water Taffy in Atlantic City." In the Glaser-owned chain of Dairy Maid candy stores in Philadelphia they purposely do not feature Salt Water Taffy . . . it doesn't move well in the city, anyway, and why hurt the big feature of the boardwalk? It

appears that many people associate the taffy with salt water and they just naturally expect to find the best at the beach.

It takes a five story plant with 40,000 sq. ft. area to supply the candy for the four James retail stores. The plant is located on the boardwalk, in conjunction with one of the retail stores. It is a modern plant, with departments for making all types of candy, but by far the greatest area is used for the Salt Water Taffy. Production is routed down from the fifth and top floor, used mostly for storage, to the fourth floor where there are two vacuum cookers for 260-lb. batches and six cooking kettles. The fourth floor also has a compressor for conditioning the room, four 100-lb. batch formers, five Rose batch spinners, automatic cutting and wrapping machines, and storage closets for holding pans of taffy.

Next below is the packing room. A Kliklok tray-forming machine sets up the boxes, which are then filled along a conveyor belt by ten girls. Boxes are automatically weighed, then lidded. An Elec-tri-pak machine weighs the 1- and 2-lb. bank barrels and another novelty box, the lighthouse.

Down another flight are the fudge and starch rooms. Here are a starch buck, printer and depositor; a half dozen cooling and cutting tables, a 5′ ball beater, a 50-lb. and a 100-lb. chocolate melter, and tables for four hand-dippers. Here too are three foil wrapping machines and two more Rose cutting and wrapping machines, and a Latini die pop machine.

The feature of this second floor, and in fact the feature of the entire factory is the Chocolate Seal machine, also known as the James Forming Machine for chocolate-coating Salt Water Taffy. It is the only machine of its kind in the world, and it cost $40,000 to build. It is 40′ long and forms the centers before chocolate coating them. With feeding belts and forms for shaping the centers, the equipment stretches 70′. Production then takes a U-turn and feeds a 24″ National Equipment bottomer and enrober, and goes on into a 40′ cooling tunnel.

The main floor of the factory, at the rear of the retail store, contains the shipping, receiving and mailing departments. James is also a U. S. Post Office sub-station. In this store on rush days they mail from 2500 to 3000 parcels of candy a day.

The basement is used for furnaces, machine shop, the main sprinkler apparatus, and storage.

The four retail stores are bright, white, and modern. They are brightly lighted, with extreme use of

The store is brightly lighted and one wall is covered with a mirror. The interior is decorated in white. To the rear is an order counter with chairs, and the Post Office sub-station is at the far end. Near the order counter are out-of-town telephone directories for customers' use in finding addresses. This, and other similar little extra touches of customer service, have done much to build good will. Among the directories available are those for the five New York Boroughs, Pittsburgh, Philadelphia, Baltimore, Washington and Atlantic City.

mirrors to give a larger impression than the actual average 30′ frontage, with a depth of 100′ to 125′.

Otto J. Glaser explains a few of the reasons for the outstanding success of the James stores: "We credit our salesgirls with our extremely good public reception," he says, "and we hire outstanding girls from high school for summer work, training them for the future. We pay well, better than most retail stores, and we feel we couldn't invest in a better place."

Chocolate and vanilla sell best

James Salt Water Taffy contains no artificial color. All pieces are white except chocolate, molasses and licorice. Best sellers are chocolate and vanilla, but other flavors made are anise, clove, lemon, cinnamon, lime, cocoanut, molasses, molasses-mint, orange, walnut, peppermint, wintergreen, peanut butter and strawberry.

The big feature item of the James stores is the James Bank, packed in 1-pound and 2-pound sizes. Trailer loads of the empty banks roll up to the James factory (in a year James will sell 275,000 of these banks). Sometimes 3000 will be sold in one day. Banks sell for 89 cents in the 1-pound size and $1.79 in the 2-pound size, plus mailing charges, and are mailed to all parts of the world.

Otto Glaser, president of the firm holds a 1 lb. James Salt Water Taffy Bank. James sells as many as 3000 of these per day, and they have been mailed to all parts of the world. The packages are available in 2-lb. size also, which retails for $1.79. The smaller size sells for $0.89.

The executive vice president of the candy firm is Henry Glaser. Other firm members are: Frank Glaser, vice president, and Joseph Glaser, secretary and treasurer.

In one window of the store fronting the Boardwalk, the firm has a Rose batch spinner and automatic wrapping and cutting machine. Action windows are always good interest arousers and help build sales. Some 20 million persons are exposed to the window annually.

how to Extend Shelf-Life of Candies

By Claude D. Barnett, vice-president,
Pearson Candy Co., Los Angeles

With the economic pressures of today's business and with the constantly increasing demands of labor and government, the candy manufacturer is plagued with the need to schedule his production activities to achieve the maximum in efficiency. As a result we find ourselves pushing back the production date for each holiday or special event to the point where we start to wonder whether the candy eating public is getting a product which has retained its original delicious flavor and texture or whether it has lost a lot of its desirable characteristics because of its age.

While the men in the laboratory are still trying to find the answer to indefinite shelf life, the practical candy man is searching for ways to extend the shelf life of candy for a sufficient period of time to permit him to work ahead without sacrifice of quality.

Shelf-life important to all candymakers

The small candy manufacturer who has one shop and sells his product as fast as he makes it may feel that shelf life is not important to him. However, keep in mind that the housewife who makes a delicious fudge out of cream and sugar finds that it is hard and sugary the day after she makes it.

In the same way, the small retail manufacturer might add a little corn syrup in his formula and extend the shelf life for about a week.

The wholesaler may use a larger quantity of corn syrup, plus invert sugar, sorbitol and one of the colloids such as pectin to give his product a shelf life of possibly six weeks. Then the step is carried still further by providing a package of laminated foil or saran, thus extending the shelf life to four months.

Carry this one step further by freezing and you have a product with almost indefinite shelf life. In this way we can follow the development of long shelf life in each confectionery product by taking advantage of the work already done and by further experimentation in our own individual fields.

One group of ingredients which is most effective in extending the shelf life of candies, in the soft and medium-soft classifications, is the humectants. Two of the important humectants used are Invert Sugar and Sorbitol. Their common characteristic is that they form a liquid portion within the structure of the candy that in principle holds onto the moisture present and in this way keeps the candy soft.

Both of the ingredients have their own particular use, even though they are quite similar in nature. Invert sugar, for instance, is an excellent grain retarder, can be readily cooked in the batch and is only mildly hydroscopic when used in moderate quantities. Sorbitol, on the other hand, becomes highly hydroscopic and is almost a grain destroyer when cooked in the batch. However it can be most valuable as a moisture carrier when added to the batch after cooking. In this way it is quite similar to glycerine, which for many years was the old-time candy maker's standby.

The judicious combining of the humectant ingredients can often produce the best results by taking the best characteristics of each product. For example, let's take a marshmallow formula and modify it with invert sugar and sorbitol. Starting with 50 pounds of sugar and 50 pounds of corn syrup and using 2½ pounds of gelatine, we can get an excellent cast marshmallow just by adding the proper amount of water and beating. Uncoated it might stand up for about two days or maybe even a little longer if you are not too fussy about your customer's reactions. Coated with chocolate it might stand up for about two weeks unless of course it started to ferment because of the free water present. In any event it must be considered a hazardous product.

Now substitute 10 pounds of invert sugar for 10 pounds of the corn syrup and you have a balanced

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before 1961 Western Candy Conference, Santa Barbara, Calif., February 23.

formula that will stand up for about a week uncoated. Coated it should last for several months without fermenting or drying out. Let us go one step further and add 3 pounds of sorbitol to the batch and we have extended our shelf life half again as long.

At this point we have gone as far as we can with humectants of this type although we should stop and consider the role of the colloid gelatine which is an important part of the batch in its role as a shipping agent. However, it also is a humectant of a sort as it holds onto water too.

The last ingredient we will add to extend the shelf life of this marshmallow, particularly if it is to be used uncoated, is the comparatively new waxy maize starch which can be added at the rate of from 2 to 4 pounds per 100 pounds of candy to keep the moisture in balance for even a longer period of time. Because of the nature of these starches they pick up the free moisture in the candy and hold it in balance. Of course, my example of the marshmallow and the role of humectants is rather dramatic, but the principles involved will apply to all classes of soft candies such as fudge, fondants, caramels, etc.

Why use emulsifiers?

We all know that normally water and oil do not mix. Yet we candy men will blithely add vegetable oil to our batch of candy which we keep soft with water and wonder why the darn stuff dries out and changes character. Well, it's mainly because oil and water just will not mix and stay mixed unless we add an emulsifier to it so that either the little molecules of water will surround the oil or the little molecules of oil will surround the water and stay put.

It's just too bad that Uncle Sam won't let us use some of the more potent emulsifiers indiscriminately in all classes of candy because we could do some remarkable things with them. We must content ourselves with lecithin and glycerine monostearate, which do a very good job in a limited way.

Lecithin is well-known to most candy manufacturers. It is used in chocolate, of course, where it is invaluable as a control for viscosity and as a stabilizer. It can be used in any candy where fat is used to blend the fat in and prevent premature fat bloom.

Place for glycerine

Glycerine monostearate is particularly valuable in chewy candies where large quantities of vegetable oils are used to lubricate the batch. It tends to keep the fats in balance in the case of pulled candies such as taffy, and takes the greasy, slippery taste out of caramels. However, these are really side benefits because its most important role is in keeping the fats in suspension which is an aid to extending shelf life.

Consider the roll of dehydrated butter oil in chocolate coating to prevent fat bloom. Chocolate is one of our most perishable products, as it is particularly sensitive to temperature changes. The addition of from 2 to 4% of dehydrated butter oil will effectively prevent the chocolate from turning grey for an extended period of time. Because the butter oil has a lower melting point than the cocoa butter in the chocolate, the coating tends to lose a little of its "snap", or brittleness. However, in consumer tests

made in the eastern part of the country, this loss of "snap" was not considered a serious matter. As an added bonus, chocolate containing butter oil seemed to retain its flavor for longer periods of time in storage under ideal conditions.

Because many of the materials we use in making candy are highly perishable it is sometimes necessary to use preservatives to prevent fermentation and the development of rancidity. For example, maraschino cherries are commonly preserved with 1/10th of 1% of Benzoate of Soda so that during their "light" syrup stage they will not ferment. Butter and other fats can be protected by using one of the approved anti-oxidants such as Tennox or NGDA to extend their shelf life. For example Butter Crunch containing a high percentage of free butter will turn rancid under normal storage conditions in about four weeks. With the addition of a small amount of anti-oxidant it can be kept for several months without deterioration.

There are innumerable other ingredients available to the candy manufacturer at present, others are in the development stage in the laboratory, to help him extend the shelf life of his individual products. It is necessary for each manufacturer to attack his problem individually and by using accelerated shelf life tests determine which of these raw materials will do the most for him.

Package is important

No matter how carefully the candy is made and, regardless of the ingredients used, any product will deteriorate in time unless it is protected by a proper package. There is no excuse for a poorly protected product in the light of the tremendous strides made in packaging techniques and materials.

There are so many varied packaging materials on the market today that it would almost be impossible to list each one and discuss its particular vitrue in a short time. Here are a few case histories to illustrate my point on packaging as an aid to extending shelf life.

An overwrap did the trick

Case 1 is a manufacturing retailer who made a delicious, fluffy, slightly short chocolate covered marshmallow. He sold quite a few, too, as long as he could deliver the product to the consumer within 14 days of their manufacture. Because he was a manufacturing retailer this was easy to do as he could schedule comparatively small batches and make frequent deliveries. As time rolled on he found himself saddled with labor problems and it became increasingly difficult for him to interrupt his normal runs with the frequent short runs required by this marshmallow piece. The solution to his problem was easy —just overwrap the box the candy was packed in with a saran coated cellophane and his product remained fresh for over two months. This permitted longer runs and the eventual automation of this production line.

Case 2 was a wholesale manufacturer in the southern part of the country who made a delicious peanut brittle. Packed in a box and overwrapped with a heavy waxed glassine, it held up fairly well during the dry-

er season of the year. However, when it started to get damp he was beset with loads of returns of peanut brittle which had become one grand mass, or maybe I should say mess. His answer was a wax paper laminated foil overwrap which gave him the necessary moisture barrier to permit even extended sales into really high humidity areas where he had never dared to venture before. Of course he had protected his product with an anti-oxidant, too, so that there would not be any development of rancidity in the peanuts.

Case 3 was a small candy manufacturer who made a delicious butter crunch. He enjoyed a good sale of his product in his local area but wanted to go national. His big problem was keeping his product in shape and keeping it fresh on the storekeeper's shelves for almost an indefinite period of time. He found his answer in a tin, hermetically sealed under vacuum. This not only prevented rancidity because there was no oxygen present to cause the oxidation of the fats but also gave him the rigid package he required to protect his delicate product.

The cases I have cited are not unusual and their development did not take a great deal of ingenuity. In fact they were quite simple and very elementary. However, extending shelf life of candy by the proper application of packaging is really very elementary and merely takes time, effort and the expenditure of money to accomplish a desired result. In all the cases cited, the expenditures for extra packaging materials was more than offset by the savings in production costs and in the development of extended markets.

Proper storage is vital

What is the part played by proper storage conditions in extending the shelf life of confectionery products? Until recent years very little was known about optimum conditions of temperature and humidity for many classes of candy. Today, thanks to research, we have a great deal of information that, if properly used, will permit us to store candy for long periods.

It is common knowledge that chocolate covered candies should be stored at 60°F. temperature and 50% relative humidity and that under these conditions normal shelf life can be expected. However, it is also true that the same candy stored at 40°F. and 50% relative humidity will stand up about five times as long. The same ratios hold true for caramels and fudges at higher humidities. For example a wrapped caramel stored at 70°F. and 60% relative humidity will stay fresh for about two months. At 40°F. and 60% relative humidity it should stay fresh for almost a year.

Storing hard candy

In hard candy we have a peculiar phenomena. Strange as it may seem, if the relative humidity is too low we lose some of our shelf life while temperatures, unless they are extreme, will effect it very little. The optimum relative humidity for hard candy is between 30% and 40%. If it gets any higher the candy can sweat and become sticky. If it gets too low the difference in vapor pressure between the air and the candy will cause the small amount of internal moisture to migrate to the surface and cause an undesirable surface glaze. Extremely low humidities also cause dusting of hard candy when the moisture content is very low and this can dull the external surface. Of course, if the hard candy is packed in a sealed container it forms its own atmosphere and if the original moisture content is below 1½% it will stand up almost indefinitely.

The next and ultimate step in the storage of candy of all classes, with the exception of hard candy is freezing. Fresh candy, and I mean *really fresh* candy, when properly prepared and packaged, can be held at temperatures between 30°F. and —10°F. for periods up to two years. When properly defrosted it will be as fresh as the day it was made, but there are several conditions and some peculiar results.

Steps in candy storage

1. The package must have a good vapor seal.
2. The relative humidity of the storage rooms must be held within reasonable limits, not more than 65%.
3. The chocolate coating should have butter oil in it to take away some of the extreme brittleness that will occur when it is frozen.
4. The candy should be properly defrosted with vapor seal intact, with either a corrugated container or paper around it to absorb the condensed moisture that is bound to collect during the defrosting period.

In my own research there was only one candy that did not freeze well and that was a honeycombed chip which had a tendency to crack when it was defrosted. Cordial cherries and fruits are another exception in that they may develop sugar crystals. If they are frozen before they are liquid, however, they will start to cordialize after defrosting without any danger of crystallization.

Freeze fresh candy only

I re-emphasize that only fresh candy should be used for freezing. This is one of the phenomena of freezing. Fresh frozen candy upon defrosting will start a normal shelf life period. Aside from a slight mellowing of the softer pieces, which I personally feel is advantageous, fresh frozen candy will stand up for the usual shelf life periods starting from the date of defrosting.

Candy which was not fresh when it was frozen but was, for example, six weeks old at the time of freezing, will taste fine the day it is defrosted. Then comes the calamity, for it will run downhill with amazing speed in less than a week.

There are several companies today that are successfully extending the shelf life of their product by freezing. Of course, the cost of freezing, and it is costly, must be justified by the savings in production costs, by extended markets, or by an improvement in quality.

Extending the shelf life of candy is an individual problem for every individual manufacturer and there is no general rule that will apply to all products. Take the time to do the necessary research on your own product, apply the principles outlined where they fit and be sure of your results before trying your extended shelf life products on the candy eating public.

Customers always reach for appetizing

eye-appealing candies made with...

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corn syrups

WRITE OR PHONE
Corn Products for expert technical assistance... helpful data on these fine products for Confectioners:
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Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Assorted Chocolates up to $1.15

Code 3A1
Assorted Milk Chocolates
1 lb.—$1.45

(sent in for analysis)

Appearance of Package: Good
Container: Oblong box, pink embossed paper top printed in black. See remarks. Outside white paper wrapper, overall print of Merry Christmas in colors, tied with red grass ribbon.
Appearance of Box on Opening: Good
Number of Pieces: 38
Coating: Light
Color: Good
Gloss: Poor
Strings: Fair
Taste: Fair
Centers:
Cashew Nuts: Good
Filberts: Good
Glace Pineapple: Good
Chocolate Cream: Good
Red Jelly: Could not identify flavor
Cordial Cherry: Good
Vanilla Cream: Good
Vanilla Carmel: Good
Lemon Cream: Weak flavor
Orange Flavor: Weak flavor
Taffy: Could not identify flavor
Vanilla Nut Cream: Good
Pink Cream: Could not identify flavor
Assortment: Fair
Remarks: Suggest any color but black printing on top to improve the appearance of box. Workmanship was good but the flavors were too weak. To improve the assortment, we suggest adding a few hard candy centers and a few chewy pieces.

Code 3B1
Assorted Chocolates
1 lb.—$1.00

(Purchased in a retail food and candy shop, Chicago, Ill.)

Appearance of Package: Good
Container: Long oblong box, one layer type. White glazed paper top. Name embossed in gold. Cellulose wrapper.
Appearance of Box on Opening: Good
Number of Pieces:
Light Coated: 20
Dark Coated: 9
Coatings:
Colors: Good
Gloss: Fair
Strings: Good
Taste: See remarks.
Dark Coated Centers:
Yellow Colored Cream: Could not identify flavor
Vanilla Cream: Dry
Maple Cream: Good
Mint Cream: Fair
Vanilla Cream & Vanilla Caramel: Good
Pink Cream: Could not identify flavor
Orange Cream: Poor flavor
Butter Cream: Fair
Light Coated Centers:
Nougat: Fair
Vanilla Caramel: Good
Dark Cream: Could not identify flavor
Pink Cream: Could not identify flavor
Cream Brazil: Good
Chew: Lacked flavor
Molasses Honeycomb: Good
Chocolate Cream: Good
Ting Ling: Good
Almond Cluster: Good
Peanut Brittle: Good
Dark Cream: Cream good, could not identify flavor
Chocolate Cream: Good
Orange Cream: Poor flavor
Assortment: Fair. Too many creams for a one pound assortment.
Remarks: Coatings are not up to standard for a one dollar assortment of chocolates. Suggest a better grade of flavors be used and enough flavor so it can be tasted. The nougat and chew centers were of the cheapest kind.

Code 3C1
Assorted Chocolates
1 lb.—89¢

(Purchased in a fancy food shop, Chicago, Ill.)

Appearance of Box: Fair
Container: Folding box, white printed in brown and pink.
Appearance of Box on Opening: Bad
Number of Pieces:
Light Coated: 17
Dark Coated: 15

Candy Clinic Schedule For the Year

JANUARY—Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—Assorted Chocolates up to $1.15
APRIL—$1.20 and up Chocolates; Chocolate Bars
MAY—Easter Candies; Cordial Cherries
JUNE—Marshmallows; Fudge
AUGUST—Summer Candies
SEPTEMBER—Uncoated & Summer Coated Bars
OCTOBER—Salted Nuts; Gums & Jellies
NOVEMBER—Panned Goods; 1¢ and 2¢ Pieces
DECEMBER—Best Packages and Items of Each Type Considered During the Year.

Coatings:
Colors: Good
Gloss: Bad. See remarks.
Strings: Fair
Taste: Fair
Dark Coated Centers:
Vanilla Cream: Fair
Pink Cream: Could not identify flavor
Lemon Cream: Poor flavor
Nougat: Very hard; lacked flavor
Light Coated Centers:
Vanilla Cream: Fair
Dark Cream: Could not identify flavor
Nougat: Too hard
Vanilla Caramel: Good
Pink Cream: Could not identify flavor
Lemon Cream: Poor flavor
Assortment: Too small; too many creams and caramels.
Remarks: Appearance of this box on opening was a "mess". A number of pieces were broken. All pieces were covered with chocolate dust. Very cheap looking box. We have examined far better quality assorted chocolates at 59¢ and 69¢ pound.

Code 3D1
Assorted Chocolates
1 lb.—89¢

(Purchased in a department store, Chicago, Ill.)

Appearance of Package: Good
Container: Oblong shaped box, two layer type. White glazed paper top printed in squares of red and white. Imprint of girl in gingham dress. Cellulose wrapper.
Appearance of Box on Opening: Good
Number of Pieces:
Light Coated: 22
Dark Coated: 7
Coatings:
Colors: Good
Gloss: Fair
Strings: Poor
Taste: Fair
Dark Coated Centers:
Pink Jelly: Could not identify flavor
Vanilla Cream: Fair
Lemon Cream: Rancid
Pink Cream: Could not identify flavor
Vanilla Cream & Vanilla Caramel: Good
Light Coated Centers:
Peanut Brittle: Good
Vanilla Cream: Good
Jelly: Could not identify flavor
Vanilla Caramel: Good
Dark Cream: Could not identify flavor
Orange Cream: Very little flavor
Mint Cream & Jelly: Good
Chocolate Cream: Good
Chew: Too hard
Assortment: Fair. Too many creams.
Remarks: We have examined far better assorted chocolates at 59¢ and 69¢ pound. Very cheap coatings and flavors. The strings were also very poor.

Code 3E1
Assorted Chocolates
1 lb.—77¢

(Purchased in a chain drug store, Chicago, Ill.)

Appearance of Package: Good

Container: Oblong box, two layer type. Brown mottled paper top, overall wrap, printed in brown. Crest and name in colors. Imprint of chocolates on sides. Dark brown crate used.
Appearance of Box on Opening: Good
Coatings: Dark & Light:
Colors: Good
Gloss: Good
Strings: Good
Taste: Good
Number of Pieces:
Light Coated: 13
Dark Coated: 9
Confectionery Coated: 4
Dark Coated Centers:
Vanilla Nut Cream: Good
Cordial Cherries: Good
Light Coated Centers:
Vanilla Nut Caramel: Good
Chocolate Nut Fudge: Good
Nut Nougat: Good
Confectionery Coating:
Molasses Coconut: Good
Assortment for this Type of Favorites: Good
Remarks: The quality and workmanship of this box are far better than some one dollar assorted chocolates. The best assorted chocolates of this type at 77¢ that we have examined in some time.

Code 3F1
Old Fashioned
Chocolate Cream Drops
1 lb.—39¢

(Purchased in a department store, Chicago, Ill.)

Appearance of Package: Good for this priced candy
Container: Paper board square pail, wire handle, printed in tan and dark brown.
Appearance of Box on Opening: Chocolates are in a paper bag, and were badly scratched.
Coating: Dark:
Color: Good
Gloss: None
Strings: None
Taste: Very cheap coating
Center:
Color: Poor
Texture: Tough cream
Taste: Fair
Remarks: We cannot expect too much at 39¢ pound. Very poorly made cream centers.

Code 3G1
Marzipan Roll
4½ ozs.—59¢

(Purchased in a department store, Chicago, Ill.)

Appearance of Package: Good
Wrapper: Roll is wrapped in cellulose; gold seal printed in black.
Roll:
Coating: Dark: Good
Center: Center is a fudge type with almond, marzipan and nut pieces.
Color: Good
Texture: Good
Taste: Good
Remarks: One of the best rolls of this type we have examined. Very good eating.

Code 3H1
Home Style Chocolates
1 lb.—69¢

(Purchased in a department store, Chicago, Ill.)

Box: White folding box, two layer type. Printed in orange.
Appearance of Box on Opening: Poor
Number of Pieces:
Light Coated: 27
Dark Coated: 5
Coatings:
Colors: Good
Gloss: None
Taste: Poor
Dark Coated Centers:
Coconut Cream: Fair
Light Coated Centers:
Vanilla Cream & Vanilla Caramel: Good
Chocolate Cream: Good
Vanilla Cream: Fair
Assortment: Poor
Remarks: We have examined far better assorted chocolates at 59¢ pound.

FRITZBRO®
HARD CANDY FLAVORS
IMITATION

IN ALL THE WORLD, THERE ARE NO FINER FLAVORS — AS A GROUP AND FOR THE PURPOSES INTENDED — THAN THESE!

FIFTY DIFFERENT FLAVORING EFFECTS are offered in this much imitated group of powerful, non-alcoholic, high-cook flavors. They are invaluable for use in hard candies, gums and jellies. Since they contain no water or alcohol, they are freely soluble in vegetable oils and therefore provide delicious effects in bon bon and summer confectionery coatings, sandwich fillings and oil base icings. Write for our catalog and/or samples.

FRITZSCHE BROTHERS, Inc.

A FIRST NAME IN FLAVORS SINCE 1871

76 NINTH AVENUE NEW YORK 11, N. Y.

Branch Offices and *Stocks: Atlanta, Ga., Boston, Mass., *Chicago, Ill., Cincinnati, Ohio, Greensboro, N. C., *Los Angeles, Cal., Philadelphia, Pa., San Francisco, Cal., St. Louis, Mo., Montreal and *Toronto, Canada; *Mexico, D. F. and *Buenos Aires, Argentina. Plants: Clifton, N. J. and Buenos Aires, Argentina.

Completely sanitary rotary sifter for nut meats

THERE IS PROBABLY no type of processing that requires more stringent sanitary standards than the screening of ground nut meats. This type of processing in New York City, with its strict code requirements, caused American Almond Products Company to hunt for screening equipment which would give them the necessary sanitary standards, together with top efficiency and production rates.

The result was the purchase of a Gump 342 "M" Bar-Nun Rotary Sifter. The sifter box and all internals are of aluminum or stainless steel. It is a two screen machine, to give the desired size range of finished product, with oversize and fines screened out. Eight interchangeable sieves (2, 3, 4, 5, 6, 8, 10, & 12 meshes) gives a complete range of sizes when used two at a time. Measuring 47" x 31 x 20 high, the unit will sieve up to 1800 pounds per hour.

This sanitary nut sifter combines high production rates with ease of cleaning. Extra screens are kept in a wall rack, and are quickly interchangeable in the machine.

New Products

New corn sugars are now being produced which have very high dextrose content. They are comparable to crystallized dextrose in sweetness and in many other characteristics.

Evolved from a new process based on enzymatic conversion of starch, the product purportedly will be economically priced inasmuch as the production process is less costly.

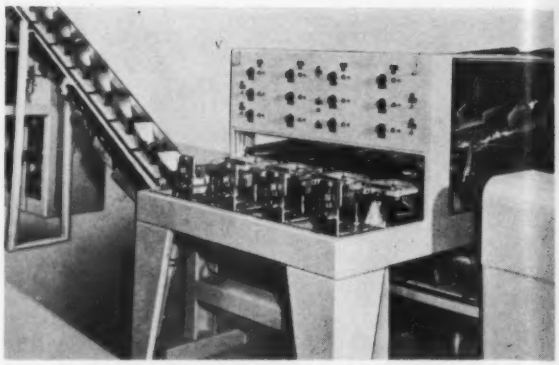
For more information write: C. D. McDermott vice president, Grain Processing Corporation, Muscatine, Iowa.

Scale system said to be hyperaccurate has just been announced for use with the Verti-Pak flexible packaging machine or with other packaging machinery.

Unit is a high-speed system which, in actual production runs has cut overweight loss by as much as 75%, the maker reports. Effective with small and large diameter products, the unit, as used by a midwest candy manufacturer, holds overweight to less than ½ unit per package in a package of 30 lollipops.

The Merco-Weigher Scales have sensitive vernier adjustment and are mounted independently from the rest of the machine to eliminate vibration. Drop from scales to buckets is minimized to protect product. Unit has an automatic control and the scales will not dump until properly filled.

Length of feed from storage bins to scale is custom designed in inter-related sections for maximum feeding efficiency.



Dual dribble and bulk feeds, running simultaneously in the last section, are operated by separate vibrators. Thus, dribble feed continues after bulk feed shuts off. Pivot points are extra sensitive, and buckets and balance are lightweight aluminum.

The scales are constructed in batteries of from two to six units. Are available for either overhead or floor installation (shown). In the floor model, product is carried to top of packaging machine by bucket conveyor.

For more information write: Mercury Heat Sealing Equipment Co., 2601 North Howard St., Philadelphia.

Imitation cherries made with pure fruit are now being distributed in the United States and Canada. Available in a wide range of uniform sizes, they can be produced from strawberries, blackberries, black raspberries, cherries, pineapples, plums, prunes, grapes, apples, or other fruit to specification. Also size, color and flavor requirements can be varied with needs.

The product consists of artificial color and flavor with pure fruit formed into a sphere and covered with a special type of alginate skin covering.

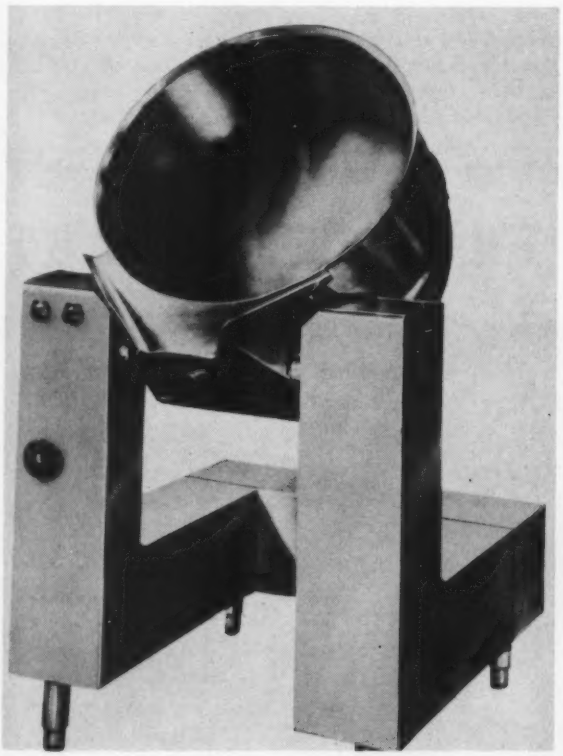
Available in 30 lb. cartons, or 10 lb. containers, in whole or halves, the imitation cherries range in sizes from 75 to 2,000 cherries per lb. They are packed very dry, with a minimum of syrup, and are uniform in size and appearance. Product complies with all Federal and State Pure Food and Drug laws.

For more information write: Ohio Fruit Products Company, North East, Pa.

New electrical powered tilting steam-jacketed kettle, 40 gal. capacity, has just been made available. Unit tilts from the front edge, allowing the lip to stay in one pouring position. This design permits accurate pouring and minimizes spillage, maker states.

Tilting is done by an electric motor, controlled by push-buttons. Kettle tilts forward or back only when the operator holds a finger on the specific button.

Unit has new, wider pouring lip than other models,



which gives better control of pouring a measured amount. The front lip position is at a high pouring level for use with mobile carts, right at the kettle.

Steam pipes and electrical conduit are encased in stainless steel housing, and 6" high sanitary-type tubular legs make cleaning easy. Steam input is regulated by single control valve on face of housing.

For more information write: Groen Mfg. Co., Elk Grove Village, Ill.

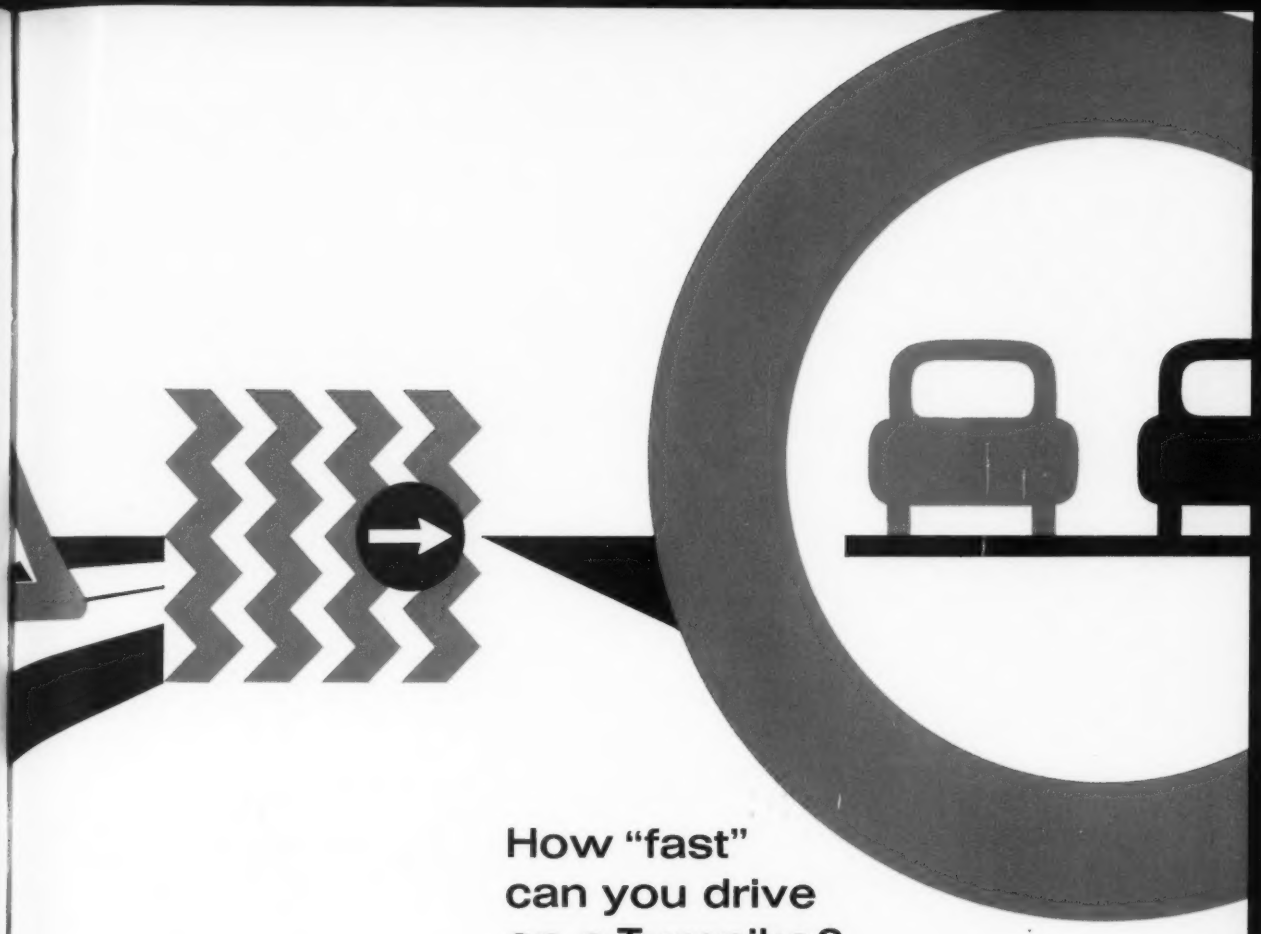
Foil insulation aids candy storage; cuts cooling costs

Reflective aluminum foil insulation on the walls and ceiling of the candy cooling room at the Great Southwest Warehouses, Inc., Dallas, Texas, has enabled the firm to obtain precise temperature control for candy storage. Also, the size of air conditioning equipment required to keep the 10,000 sq. ft. room at 72°F. round the clock was cut in half.

Some 17,000 sq. ft. of Alfol was installed with Type 4 exposed ceiling (insulating blanket composed of three layers of aluminum with the bottom one laminated to asphalt-treated kraft paper) to the ceiling. Type 1 (one layer of aluminum foil plus a kraft-and-duplex vapor-proof backing) was used on the side walls.

Because of its high reflectivity, the foil insulation causes the heat outside the candy storage room to bounce back, keeping the cool inside temperature constant. Also, the foil blanket blocks heat transferred by conduction (the flow of heat through matter) and by convection (the heat carried in currents of air.) Too, the exposed ceiling insulation's reflective quality improves lighting in the room, and its appearance eliminated need for a permanent-type ceiling.

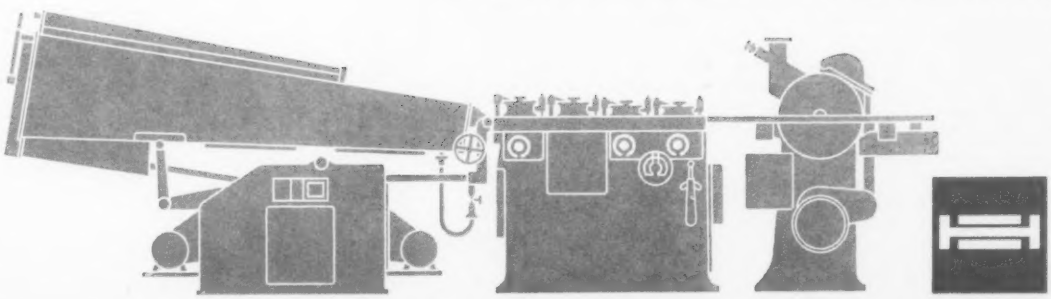
Edges of aluminum foil insulating blanket are stapled together to form a continuous ceiling in the candy cooling room at the Great Southwest Warehouses, Inc., Dallas, Texas. The ends are stapled to the supporting beam, and wires are strung at spaced intervals to support the exposed ceiling.



How "fast" can you drive on a Turnpike?

You know yourself how cars pile up in front of road construction and how slowly the traffic moves in order to pass this bottleneck.
With each production line, this is the same. The machine with the smallest production capacity dictates the output of the entire installation.
We build complete lines for hard candy production. All individual machines have been scaled to one another. This results in the successful operation of our installations. We are illustrating the fully automatic »Super-Robust« line for the manufacture of seamless hard candies.

Hamac-Hansella Maschinen GmbH., Viersen/Rhld., West-Germany



Hamac-Hansella Machinery Corp. Grand & Ruby Avenues Palisades Park, N. J.

candy business

continued from page 7

of beaters, a production line for chocolate bars, and lecture and practical demonstration on use of aeration in caramels and boiled sweets. Also there will be discussions on the use of stabilizers and humectants.

The practical courses will demonstrate the use of various mixers, extruders, enrobers and packaging equipment, some of which are newly-developed and will be shown for the first time.

Other courses include: Chocolate production, April 4-7; Production of high class filled chocolates, April 17-19; and Laboratory control, Sept. 6-8.

Although the courses are given in German, arrangements have been made to enable non-German speaking persons to follow the lectures and demonstrations.

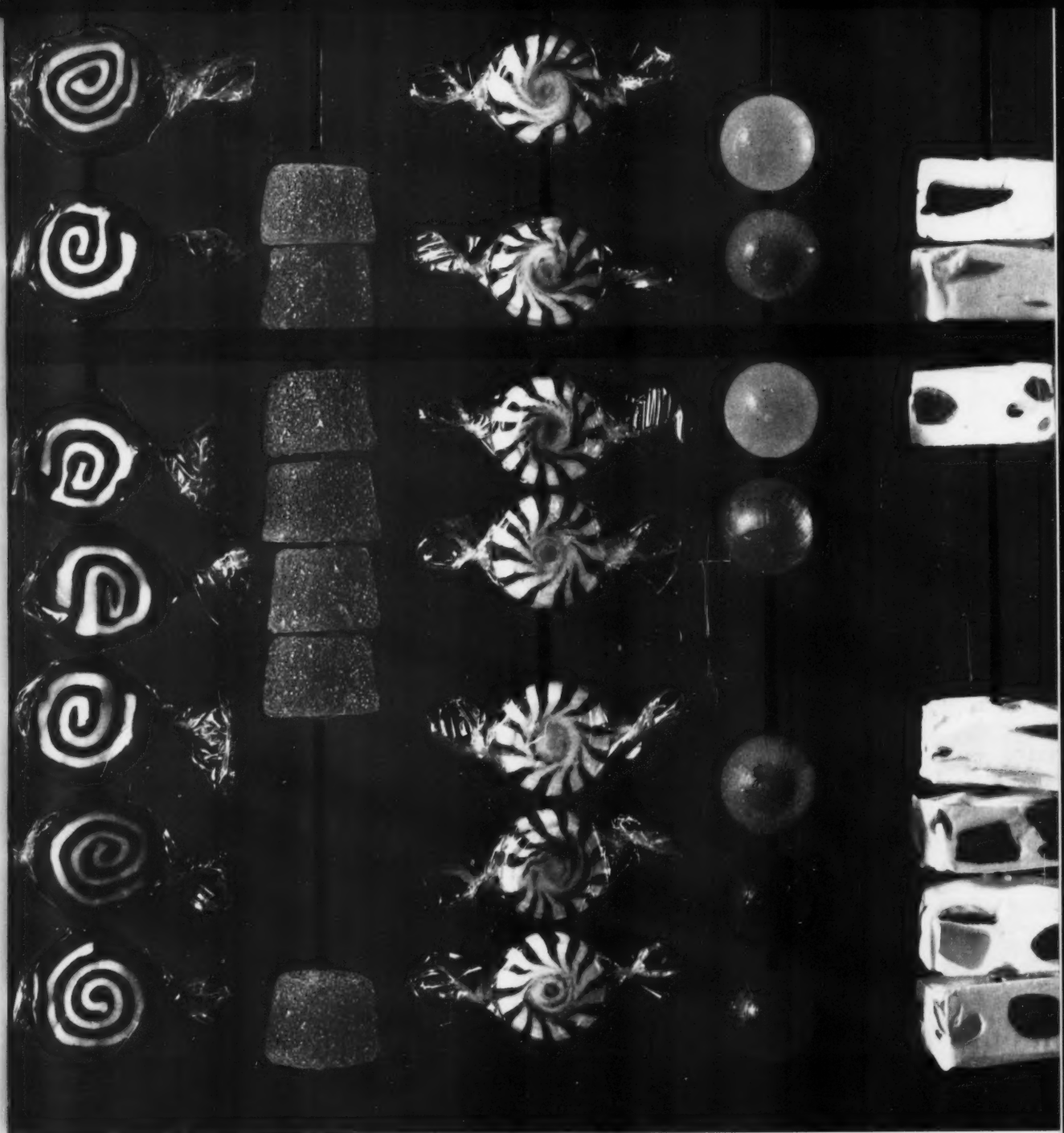
Additional information is available from the office of the Zentralfachschule der Deutschen Susswarenwirtschaft, De-Leuw-Strasse 3/9, Solingen-Grafrath, Germany.

Brokers to give a Specter award

A trophy, to be known as the Lou Specter Award, will be presented annually by the Candy Brokers Association of America to the candy broker, who has made the most outstanding contribution during the year for the advancement of the candy industry.

Donated by C. M. McMillan, executive secretary

continued on page 60



It Adds Up–to Let STANGE Evaluate Your Color Problems!

How long has it been since you've taken a close look at the colors you are buying? Chances are excellent that the man from Stange can make color do a better job for you in your finished product. You see, Stange technicians have the know-how to make color serve food, bottling, and candy processors better. The Stange technician will be glad to make a color analysis in co-operation with your technical or production staff. Put Stange's years of experience to work for you.

WM. J. STANGE CO., Chicago 12, Ill.
Paterson 4, N. J.—Oakland 21, Calif.

Canada: Stange-Pemberton, Ltd., Toronto, Ont.

Mexico: Stange-Pesa, S.A., Mexico City

PRINTED IN U.S.A.

PEACOCK BRAND CERTIFIED FOOD COLOR®

Helpful Books for Candy Plant Executives

Confectionery Analysis and Composition
by Stroud Jordan and Katheryn E. Langwill

This volume, first published in 1946, is still the only published reference work on the subject of confectionery analysis. It concerns itself with applicable data that covers composition of basic raw materials as well as that of the finished confections in which they have been employed.
116 pp. – $6.00

Confectionery Problems
(Confectionery Studies, Number 1)
by Stroud Jordan

Stroud Jordan's reputation as an important candy technologist is based on this his first book. Published in 1930 it is still, in many areas, the final word on technology in the industry. Jordan's sense of responsibility to record his discoveries and knowledge for the benefit of the industry caused him to produce more writings on the technical and scientific aspects of candymaking than any other person in the field. The recognition given him in the form of the establishment of the Stroud Jordan Medal by the American Association of Candy Technologists rests on this sense of responsibility.
347 pp. – $6.00

A Textbook on Candy Making
by Alfred E. Leighton

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.
175 pp. – $6.00

Choice Confections
by Walter Richmond

This book, now in its second printing, is written primarily for the manufacturing retailer. It contains 365 formulas given in two batch sizes, one for hand work and one for machine work. All of these formulas have been production tested and have proven to be of great help to manufacturing retailers in varying old items and developing new ones. The book also contains a glossary of candy terms and chemical terms, a complete chapter on chocolate coating methods and a chapter on ingredients and their uses. It is an important and useful book for all manufacturing retailers.
544 pp. – $10.00

Your Future Factory
by V. P. Victor, M.E., P.E.

A twenty page booklet contains the essentials of modern factory planning. It includes plant layout, process design, materials handling, building and structure, production line and financial planning. This is a reprint of the five part article which appeared in The Manufacturing Confectioner in 1958. Mr. Victor is well qualified to advise on factory layout since he has had considerable experience in such planning together with experience in design of candy machinery and process development. He is a consulting engineer with headquarters in New York City.
20 pp. – $2.00

Profits Through Cost Control
by Frank Buese and Eric Weissenburger

This material deals with the problems of cost control in candy plants including planning for profit. The emphasis is on planning operations so that a profit will be made, and in early detection of those factors which will adversely affect profit.
36 pp. – $2.00

How to Salvage Scrap Candy
by Wesley H. Childs

This booklet is a complete revision of the author's work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use.
28 pp. – $2.00

☐ **Confectionery Analysis and Composition—$6.00**
☐ **Confectionery Problems—$6.00**
☐ **A Textbook on Candy Making—$6.00**
☐ **Choice Confections—$10.00**
☐ **Your Future Factory—$2.00**
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The Manufacturing Confectioner Book Department
418 N. Austin Blvd.
Oak Park, Illinois Date.....
Enclosed is my check for $.....to cover the cost of the books I have checked at the left.

Name ..... Title .....
Firm .....
Street .....
City ..... Zone ..... State .....

Your Hubinger candy man's hobby?

Many people forget that he's a very artistic guy in his spare time. Here you see him with mallet and chisel, making like Michelangelo. We hear that a famous comedian has first grabs on this one as a mantlepiece for his den fireplace.

The Candy Man's 8-foot carving of a lollipop in Indiana limestone won the plaudits of the judging committee at the Smith County Fair last year. Other great works of art executed recently include a chocolate-covered cherry in Italian pink marble, a lemon drop in alabaster, and a peppermint patty in fake jade. He is proudest, however, of the licorice sticks in genuine ebony.

Anyway, know that he is a sensitive soul, always alert toward the beauty and form of your candy product—taste, too. How dedicated can this guy get? Write, wire or call for him, and find out.

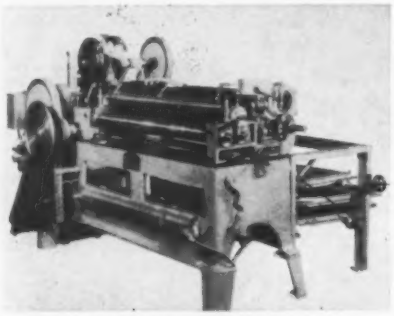
THE HUBINGER COMPANY
KEOKUK, IOWA

New York Chicago Los Angeles Boston Charlotte, N.C. Philadelphia

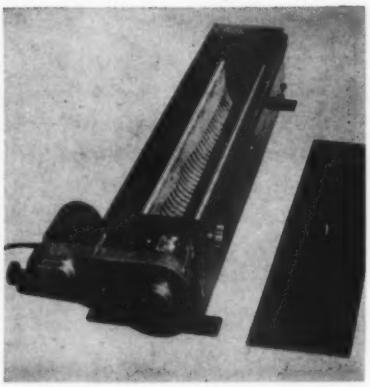
OK BRAND

CONFECTIONERS' CORN SYRUPS
DRI-SWEET CORN SYRUP SOLIDS
THIN BOILING STARCHES
MOLDING STARCHES
Prompt Truck and Rail Delivery

HOHBERGER BALL MACHINE



- Up to 1,200 lbs./hr. with only one operator.
- Each piece individually cut through.
- Sunbeam Starlights without expensive inlay.
- Balls variable from 9/16 to 1½".



LATINI DECORATOR

- Saves labor—eliminates from 2 to 6 strokes per enrobber.
- Versatile—variable speed drive, elevation control.
- 3 sets of decorating belts make a wide variety of markings.
- Now available for 10 & 12 inch enrobers.

BERKS HARD CANDY MIXER

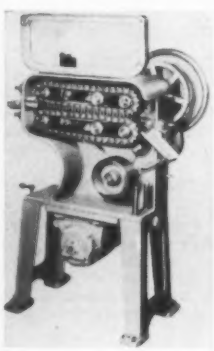
- Handles sugar direct from cooker
- Uniformly incorporates color, flavor and acid
- Mixes at rate up to 1,000 lbs./hr.
- Up to 10% scrap may be included

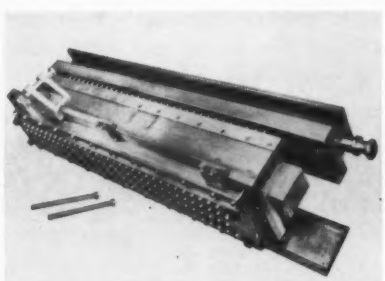
THE HOFFMAN CLUSTER MACHINE
(An attachment to the enrober)

- Handles all-free flowing nuts.
- 2 more clusters per row.
- All stainless-steel construction.
- Available in 16-24-32 and 40 inch widths.

Hohberger Continuous Hard Candy Cutter

- Bars, waffles, pillows, chips, or straws.
- Up to 150 feet per minute.
- Perfect sealing on filled pieces.





MILL RIVER PUMP BARS
(built by A. L. Bausman)

- Water-sealed Pump Bars for all depositors
- Precision-built from finest materials
- Offset or staggered impressions accommodated
- Special multi-row construction incorporates changeable nozzle plates.

Representative: *John Sheffman, Inc.*

152 West 42 Street **New York 36, N.Y.**

Princess delight

BY H. ARTHUR MELISH

Critchley Candies, Riveredge, N. J.

Marshmallow Formula:

10	lbs.	Corn syrup
5	lbs.	Granulated sugar
1	qt.	Cold water
½	lb.	Gelatine } dissolved in 1 pt. cold water
3½	oz.	Gum Arabic }
8	oz.	Egg albumin—dissolved in 1 pt. cold water
1	lb.	90° Vegetable fat
3	lbs.	Raw almonds whole
1½	lbs.	Pistachio nuts whole
1	oz.	Orange water flavor
½	oz.	Pure Vanilla extract

Procedure:

Cook corn syrup, sugar and water to 254°. Pour egg white in vertical type beater and beat until fluffy, about 6 minutes. When syrup is cooked to 254° add mixture slowly into egg white and beat at high speed.

When mixture begins to stiffen in beater, *slowly* add gelatine and gum arabic mixture. Beat until stiff. Then add vegetable fat, almonds and pistachio nuts, folding them into the batch with a wooden paddle.

Pour out on greased, starch covered, water-cooled metal table. Batch should be in center of table poured lengthwise about 2′ wide (our table is 3′ by 6′). Let the batch lie for approximately ten minutes, then spread gently. The entire spreading operation takes 15 minutes. Rolling pin may be used gently over entire surface, if desired.

When this is finished the entire 3 by 6 table will be covered, if the batch has been properly made.

Cook a batch of soft, chewy caramel (28 lbs). Pour half of the batch on one side of marshmallow sheet and cover with pecan nuts. Let lie five minutes and cut the batch into four 18″ widths. Turn batch over, repeating process. Use a cooling table with cold water running through it, if possible.

Cut pieces 2 inch long and ¾ inches wide. Dip open-face in chocolate, allowing the marshmallow to show on top.

This piece has a shelf-life of 2 to 3 weeks.

What is your Weekend Special?

Readers of THE MANUFACTURING CONFECTIONER have benefitted for a number of years from The Weekend Special feature.

Now it's your turn to participate . . . **and at a profit.**

Submit your Weekend Special for publication in THE MANUFACTURING CONFECTIONER. For each one published we will pay $5.00.

Here's all you do:

1. List all ingredients of the formula.
2. Give a complete description of the mixing and handling procedure.
3. Give the name of the candy.
4. Give your name and address.
5. Send either a glossy photo of the candy, or a 1-lb box of the freshly-made product so that we can photograph it. Put your name and address on the box too.

All published entries will be paid immediately upon publication.

Send entries to: Weekend Special, THE MANUFACTURING CONFECTIONER, 418 No. Austin Boulevard, Oak Park, Ill.

Merchandising Memo

How manufacturing confectioners join the Easter Parade

by Harry Carman

Easter can prove a positive pleasure for the retail confectioner, who also doubles in brass, manufacturing a considerable portion of his own wares. Here are just a few promotional gestures which can be used with highly satisfying results at the Easter and Lenten season of the year.

1. A retail confectioner, turning out his own chocolates, reasons that Easter has always been a veritable gold mine for the florist, since flowers are always highly acceptable Eastertide gifts. He, therefore, arranges with a retail florist to prepare a window or interior display of Easter flowers for the confectionery shop. A different display is used each weekend during Lent and up until Easter. Intermingled with the flowers are boxes of chocolates. Placards credit the florist for the display.

Posters in the window and inside the store suggest a double-barrelled gift for the little woman or sweetheart; namely, "a pocketful of posies plus a box of candy." Women are especially anxious to give the candy shop window much more than casual attention.

2. Another retail confectioner believes that business and professional men are "natural" prospects to give candy as an Easter remembrance to Mother, Father, wife, or feminine employees.

At the beginning of Lent, this confectioner sends a personal, first class letter to every business and professional man listed in the phone directory. The letter tells of candy assortments and prices, and suggests that the businessman list on the enclosed form (self-mailer) names and addresses of all persons to whom he wishes to send a box of candy at Easter-time. When the list is returned to the confectioner, each box ordered goes out via local delivery service (at a special rate in consideration for the volume involved.)

The businessman is then billed for the total retail value of the candy he ordered. The confectioner absorbs delivery charges, making a tidy profit.

The letter also mentions that the confectioner will package candy for delivery anywhere in the United States guaranteeing safe delivery before Easter, provided the order is received three weeks before Easter. He absorbs postage charges when individual candy boxes ordered are at least $2.00 each.

Letters are typed by a high school typist. This highly "individualized" touch makes the letters more certain to be read than might prove to be the case otherwise.

3. Another member of the manufacturing confectioner clan at the retail level, suggests that housewives, who are entertaining guests for Easter dinner, procure candy and place it in baskets or on plates for after-dinner snacks and for munching during the Easter afternoon and evening. Newspaper advertisements also suggest that the thoughtful housewife will dispense individual half-pound packages of candy as a "take-home" present to all Easter guests.

4. One retail confectioner believes in harnessing ample goodwill by placing posters in his window listing church services to be held during Lent. No favoritism is shown. Every pastor of every church in the community receives a cordial letter from the confectioner long before Lent, asking for a schedule of his church's Lenten and Easter worship services.

Churches appreciate this courtesy. Some show their appreciation by ordering candy in bulk for youth Easter parties.

5. It's always worthwhile to offer prizes for the best crayon, pen and ink, or colored pencil drawings of an Easter Bunny turned out by youthful artists between six and fourteen years. The rules can be simple, namely: any child, within these age brackets, can bring in a drawing. You can offer five, $1 prizes. The drawings make an attention-getting window display right after Easter, and the contest draws small-fry traffic, who buy candy on the small-fry level.

Extra mileage on this type promotion can be obtained by a telephone call to the local newspaper office. Small town and neighborhood newspapers love this on-the-spot type of news. Let the editor or reporter know of the contest. Then on the day winners are selected, make sure the newspaper gets names and addresses of the winners, and if possible a professional-type photograph of the winners with their entries. Sometimes, newspapers will send a photographer/reporter out to get the story.

This is good publicity for you.

How do you merchandise?

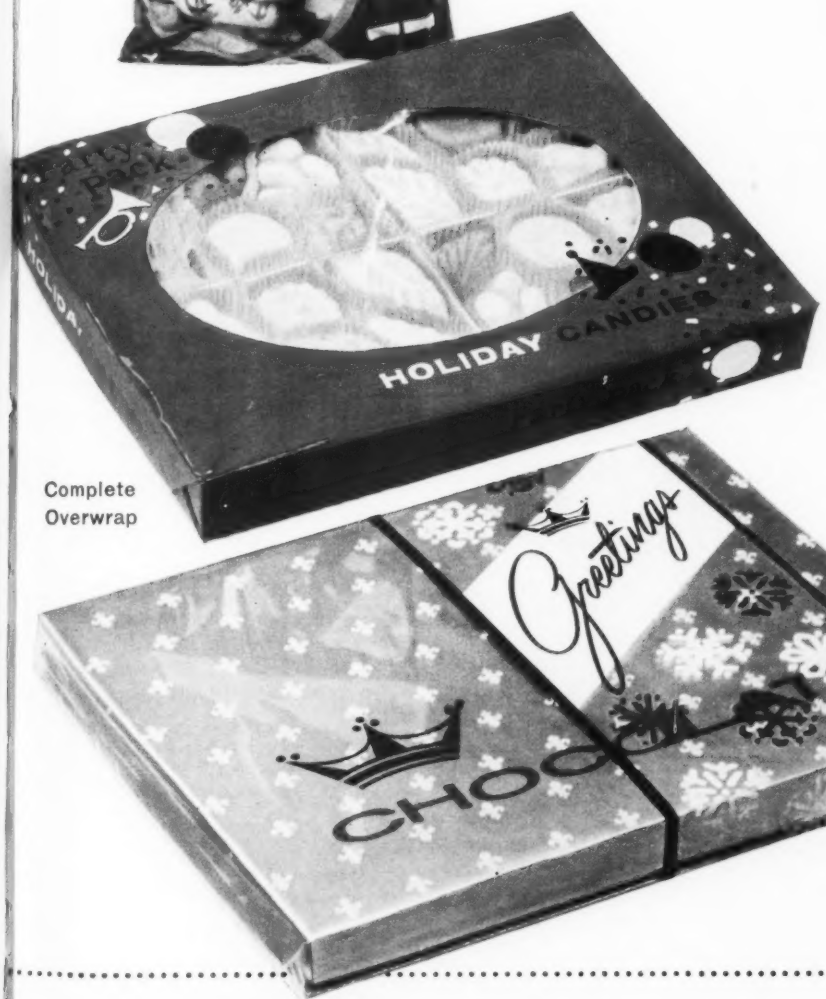
Readers are invited to contribute merchandising ideas they have used successfully to build candy sales. Address Merchandising Editor, The Manufacturing Confectioner, 418 No. Austin Blvd., Oak Park, Ill.

Printed
Cellophane Bag

CHRISTMAS SALES-WINNERS!

. . . in colorfully printed Du Pont cellophane

Now's the time to plan your most successful Christmas package ever! See your Du Pont Authorized Converter . . . he'll show you how today's printed cellophane gives a package holiday spirit, makes it stand out from competition. His expert design advice can help get your package extra facings and special displays. Remember, plan your package with printed cellophane *now* for more Christmas sales. E. I. du Pont de Nemours & Co. (Inc.), Film Dept. CI-1, Wilmington 98, Del.



Complete
Overwrap

DU PONT
REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

The package above has a removable band. It can be stripped off after Christmas . . . eliminates out-of-date stock . . . gives retailers an extra reason for preferring to stock your brand.

DU PONT cellophane

candy business

Continued from page 52

of the National Candy Wholesalers Association, the trophy can go to any broker, exclusive of the association president. It was donated in honor of the late Louis A. Specter, CBA's first president, and chairman of the Candy Salesmen's Council of America.

New post for Fowler at Nestle

T. A. Fowler is new group product manager of bar goods for The Nestle Company, Inc., White Plains, N. Y. He will be in charge of marketing the firm's chocolate bars.

Fowler joined the company in 1949 and has served in marketing positions for a variety of Nestle products.

Issue food and color additives directory

An estimated 7000 Federal Register references will be issued late in March as "Food and Color Additives Directory." Consisting of five volumes, the references will be supplemented by information on official actions concerning the thousands of food and color additives.

Each compound will be listed alphabetically and action relating to it will be listed on a separate 5½ x 8½" page. When there has been action concerning a compound during the preceding month, the entire page will be revised to include the latest data.

The directory will be loose-leaf style, to make it easy for subscribers to substitute the revised pages each month, according to the producers Information for Industry, Inc. and Hazleton Laboratories.

It is designed to give up-to-date knowledge of the status of food and color additives as they relate to use—directly or indirectly. The initial volumes (approximately 4000 pages) will cover actions on food and color additives between September 1958 and January 31, 1961.

Complete information is available from Information for Industry, Inc., 1000 Connecticut Ave., N. W., Washington 6, D. C.

Stevens Candy gets new president

Kenneth F. MacLellan, Jr. is new president of Stevens Candy Kitchens, Inc., Chicago. He succeeds William H. Rentschler, who becomes chairman of the board and continues as chief executive officer.

MacLellan, who previously was president of Sawyer Biscuit Company, Chicago, is also a director of Stevens Candy. He will have charge of all marketing functions including sales, merchandising, advertising, and new product development for Stevens and its affiliate, Martha Washington Candy Kitchens, Inc.

CALENDAR

March 14; Boston Section, AACT, monthly meeting, Beacon Street Hotel, Brookline, Mass.

March 21; Chicago Section, AACT, monthly meeting, The Dania Club, Chicago, Illinois.

April 10-13; National Packaging Exposition and Conference, McCormick Place, Chicago, Illinois.

April 11; Boston Section, AACT, monthly meeting, Beacon Street Hotel, Boston, Mass.

April 13; New York Section, AACT, monthly meeting, Busto's Restaurant, New York City.

April 18; Chicago Section, AACT, monthly meeting, The Dania Club, Chicago, Illinois.

April 26-28; Pennsylvania Manufacturing Confectioners Association, 15th annual Production Conference, Franklin & Marshall College, Lancaster, Pa.

May 2-9; Macropak, Sixth International Packaging Exhibition, R.A.I. Exhibition Halls, Amsterdam, Holland.

May 14-17; Flavoring Extract Manufacturers' Association, 52nd annual convention, Savoy Hilton Hotel, New York, New York.

June 11-15; National Confectioners Association, 78th annual convention, Conrad Hilton Hotel, Chicago, Ill.

June 11-15; Associated Retail Confectioners of North America convention, Drake Hotel, Chicago, Ill.

July 23-26; National Candy Wholesalers Association, annual convention, Palmer House, Chicago, Ill.

November 7-10; Packaging Machinery Manufacturers Institute, 1961 trade show, Cobo Hall, Detroit, Michigan.

Recent Patents

2,966,409

MILK PRODUCT

Alexander W. Williams and Richard H. Beckman, Syracuse, and Donald E. Mook, De Witt, N. Y., assignors to The Borden Company, New York, N. Y., a corporation of New Jersey

Filed Nov. 17, 1958, Ser. No. 774,354

10 Claims. (Cl. 99—56)

5. A milk powder consisting essentially of the product of spray drying a homogenized blend of winterized liquid butter fat with an aqueous dispersion of non-fat milk solids.

2,946,689

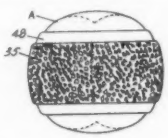
CARAMEL-COATED APPLE

Harry Pikal, Bangor, Mich.

Original application Nov. 16, 1955, Ser. No. 547,057, now Patent No. 2,889,801, dated June 9, 1959. Divided and this application Aug. 11, 1958, Ser. No. 754,481

2 Claims. (CL. 99—138)

1. As an edible confection article, a fresh apple with its full natural skin imperforate and having an annular band



of caramel confection adhered to its surface completely around the apple with the core of the apple as the axis of the band and with an overcoated layer of a comminuted confection embedded in the layer of caramel.

2,939,408

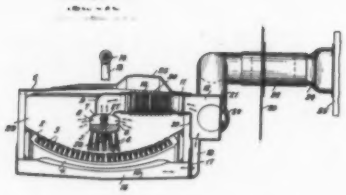
STARCH COLLECTING APPARATUS FOR CONFECTIONERY MACHINES

Robert L. Greenberg, Englewood, N. J., assignor to National Equipment Corporation, New York, N. Y., a Corporation of New York

Filed Jan. 2, 1959, Ser. No. 784,616

4 Claims. (CL. 107—44)

4. In a confectionery machine, a screen on which candies and starch are received, a swinging brush operative above the screen to dislodge the starch from the candies, the brush having a hollow head with openings in its sides, means for suctionally drawing starch through said side openings and into the head and including a collection chamber and ducts leading from the head to said chamber, to thereby cause the starch to be suctionally conveyed from the head of the brush to the collection chamber, said



ducts including corrugated, elongatable bellows connections of flexible material, said bellows connections being expansible to permit of the swinging movements of the brush, air-nozzles carried by the head, air-supply means leading to the head and coupled to said air nozzles, said nozzles extending below the head and below the openings in the sides of the head, and from which nozzles air blasts are directed toward the screen for the dislodgement of starch from the candies.

2,938,797

GUM CONFECTIONS AND MANUFACTURE THEREOF

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Commonwealth Engineering Company of Ohio, Dayton, Ohio

No Drawing. Filed Feb. 4, 1959, Ser. No. 791,054

7 Claims. (CL. 99—134)

1. A gum confection comprising a water-soluble, essentially linear, native, unhydrolyzed dextran made up of long chains and further characterized in that from 94% to 97% of the linkages joining the anhydroglucose units are 1, 6 linkages, said dextran constituting the major constituent of the confection.

2,946,706

PROCESS FOR THE HYDROLYZATION OF STARCH AND OTHER POLYSACCHARIDES

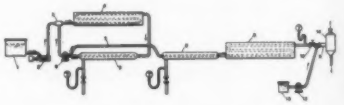
Edmund F. Boon and Laszlo Vahl, Delft, and Wouter G. Kingma, Amsterdam, Netherlands, assignors to Werkspoor N. V., Amsterdam Netherlands, a company of the Netherlands

Filed Aug. 14, 1956, Ser. No. 604,032

Claims priority, application Netherlands Aug. 29, 1955

4 Claims. (CL. 127—38)

1. A process for the hydrolyzation of starch and other polysaccharides involving the use of a heater and reactor comprising passing an acidified suspension of



a polysaccharide sequentially through the heater and reactor for successive heating operations, repeatedly recycling the fluid from the reactor to the heater and back through the reactor, adding fresh suspension between the reactor and heater, and heating the fresh suspension to pass the same through the gelatinization stage by the heat of the recycled fluid.

2,939,379

APPARATUS FOR POPPING POPCORN

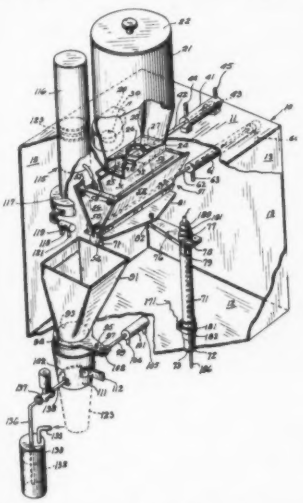
Roland G. Schmitt, 1420 N. Lake Shore Drive Chicago, Ill.

Filed Feb. 25, 1959, Ser. No. 795,455

18 Claims. (CL. 99–238.4)

1. Apparatus for cooking popcorn comprising a chamber having a pair of convergent opposed side walls of electrically non-conductive material pervious to electrical radiant energy inclined to a vertical plane to define a wedge-shaped space at the bottom and a pair of opposed end walls, said chamber having an open top for deposit of a charge of raw popcorn into the said space, a pair of spaced electrically-conductive electrodes one disposed on each side wall opposite said space, and a high-frequency generator of radiant energy, the output of said generator being connected to said electrodes.

16. Apparatus for cooking popcorn by subjecting the same to the energy contained in a high-frequency electro-static field comprising a chamber for receiving a mass of raw popcorn, said chamber including a pair of opposed walls which are pervious to the energy, a pair of electrodes disposed contiguous to said walls and on either side of said mass, a push-pull circuit and components



therein for providing high frequency, oscillating, radiant energy, the output of said circuit including a pair of coaxial, resonant, transmission lines, the outer conductor of each line comprising a rigid tube, a base for mounting said tubes in spaced apart relation, and means for rigidly securing said electrodes to said tubes respectively.

Did you see the

WEEKEND SPECIAL

Page 57?

2,940,876

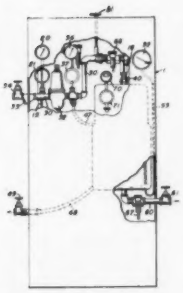
METHOD OF AND APPARATUS FOR STARCH COOKING

Norman E. Elsas, 3025 E. Pine Valley Road NW., Atlanta 5, Ga.

Filed Nov. 27, 1956, Ser. No. 624,667

7 Claims. (CL. 127–28)

1. Starch cooking apparatus comprising a jet mixer, supply conduits for pressurized steam and raw starch slurry respectively connected to said jet mixer, a pump in said last-named conduit, a pressure maintaining reservoir closed to atmosphere in communication with said jet mixer for receiving the blended steam and starch dispersion discharged from the mixer for subsequent homogenization of



the cooked starch, and a value, responsive to the pressure in said reservoir for controlling the time of residence therein of the cooked starch, to thereby provide an interval of additional homogenization.

Ultra Modern CANDY MACHINERY

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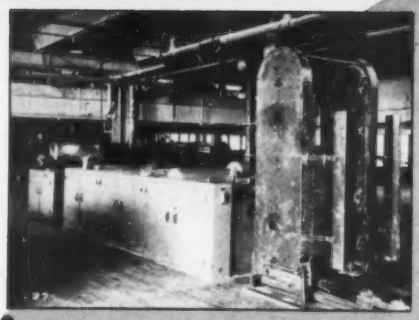

Very latest National Equipment M-100 Automatic, Streamlined, Heavy Duty Steel Mogul with D-100 Depositor. Ball bearings, forced feed lubrication, entirely framed with covers, explosion proof motors. Also with Currie Automatic Loader and Currie Automatic Stacker.

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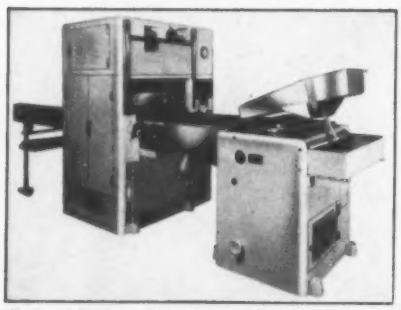
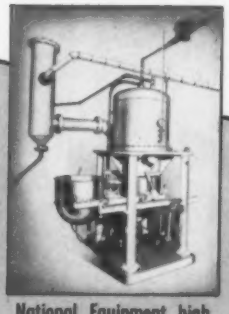
We can supply you with a stove and kettle to make 25 lb. batches, or the latest Continuous Cooker which will produce 2,500 lbs. of clear, high gloss hard candy per hour. We have a complete stock of Enrobers of all widths, from a 6 inch width belt up to a 50 inch width belt. For centers, we have Moguls and Depositors of all types. We also have mixing kettles of every size, to manufacture caramel, nougat, marshmallow, jelly, creams, etc., as well as cutting equipment for non cast centers.

We have hundreds of high speed wrapping machines in stock to wrap single candies, all sizes of bars and to overwrap all sizes of packages.

Whatever your machinery requirements may be . . . we have the machine to fill your need.



National Equipment 24" Bon Bon Enrober. Used less than 1 year. All parts which come in contact with the coating material are made of stainless steel. Available with new machine guarantee. Also 24" and 32" latest style Standard Streamlined Enrobers on hand.



National Equipment high speed high-gloss Continuous Hard Candy Vacuum Cooker. 600 to 2,500 lbs. hourly production.

Simplex Late Model High Dome Steam Jacketed two-way Copper, Tilting, Cream Vacuum Cooker emptying into Ball 5 ft. Cream Beater.

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Steam Jacketed Copper Kettles—with and without agitators.
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Corn Syrup Tank 4′ x 4′ x 12′ long.
Factory Type Pulling Machines.
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Water & Steam Jacketed Double Arm Day Mixers 35″ w. x 38″ L. x 27″ deep—Belt Drive.
5-Roll N.E. Chocolate Refiners—Belt Drive.
N.E. Co. Syrup Cooler with single cylinder jacketed Cream Beater.
16″ N.E. Co. Enrober with 30′ Cooling Tunnel and 10′ Packing Table.
Woolf Peanut Coaters with Wizard Feeders and 45′ Cooling Conveyors.
N.E. Co. Steel Mogul with Currie Stacker.
Approx. 1200 Starch Boards and Starch.
150# Cap. Flat Top Savage Marshmallow Beater.
Miller Wrapper—MPUS-17.
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MACHINERY FOR SALE

For sale: gas vacuum cooker, cream beaters, chocolate melters, stoves, cut roll machines, pulling machines, batch rollers, steam agitating kettles, water cooled slabs, marbles, Hobart beaters, copper kettles, cutting machines, clear toy molds, etc. S. Z. Candy Machinery Co., 1140 N. American St., Philadelphia, Pa.

4 high speed Ideal caramel wrapping machines, practically new, excellent condition, all set to wrap 1½″ x ¾″ x ¼″ to ¾″. Low price in one lot. Box 1612, **The MANUFACTURING CONFECTIONER.**

Forgrove foil wrapper for mint patty, 2 Latini 38″ revolving pans (grossing), Racine 32″ depositor, 48″ Greer enrober. Box 3617, **The MANUFACTURING CONFECTIONER.**

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Bonus Cluster Machine.
Model K #3 Savage Fire Mixers.
20 gal. & 50 gal. Model F-6 Savage Tilting Mixers, copper kettle.
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1000 lb. Werner Syrup Cooler.
150 lb. to 500 lb. Chocolate Melters.
24″ and 32″ N.E. Enrobers.
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Savage Cream Vacuum Cooler
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National Cherry Dropper.
6′ and 7′ York Batch Rollers.
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National Steel Starch Buck.
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Ball and Dayton Cream Beaters.
30 Gal. Stainless draw off steam jacketed kettles.
100 lb. cap. Resco chocolate melting and tempering kettle.
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MACHINERY FOR SALE

5′ Racine fondant table beater, LP pop wrapper for ball pops, Peerless plastic machine with 3 dies. Box 3615, **The MANUFACTURING CONFECTIONER.**

Berks mixer, N.E. late style continuous cooker (2000 lbs. per hour), model K kiss machines, instant fondant machine. Box 3616, **The MANUFACTURING CONFECTIONER.**

WANTED

Wanted: one DF-1 machine. State size and serial number. Box 2614, **The MANUFACTURING CONFECTIONER.**

NEW PRODUCTS WANTED FOR THE CANDY INDUSTRY by manufacturer of technical specialties.
For manufacture and national sales to the candy industry. Outright purchase or royalty basis.
Box 3614, **The MANUFACTURING CONFECTIONER.**

SITUATION WANTED

Pan Specialist—Life time experience as supt., and supervisor, have worked and taught pan work with the largest companies. Will teach all phases of pan work, will travel anywhere to teach, for steady work prefer N. Y. Met. area. Companies looking to expand in pan work line can set up dept. and supervise and teach personnel. Includes all kinds of pan work, and jelly eggs. Box 3612, **The MANUFACTURING CONFECTIONER.**

Technician in chewing gum base and general candy pan line, also starch jelly, taffy, caramel, nougats, fondant, fontex, crunches will teach all over the world. Knowledge of all phases of candy. Best references. Box 3613, **The MANUFACTURING CONFECTIONER.**

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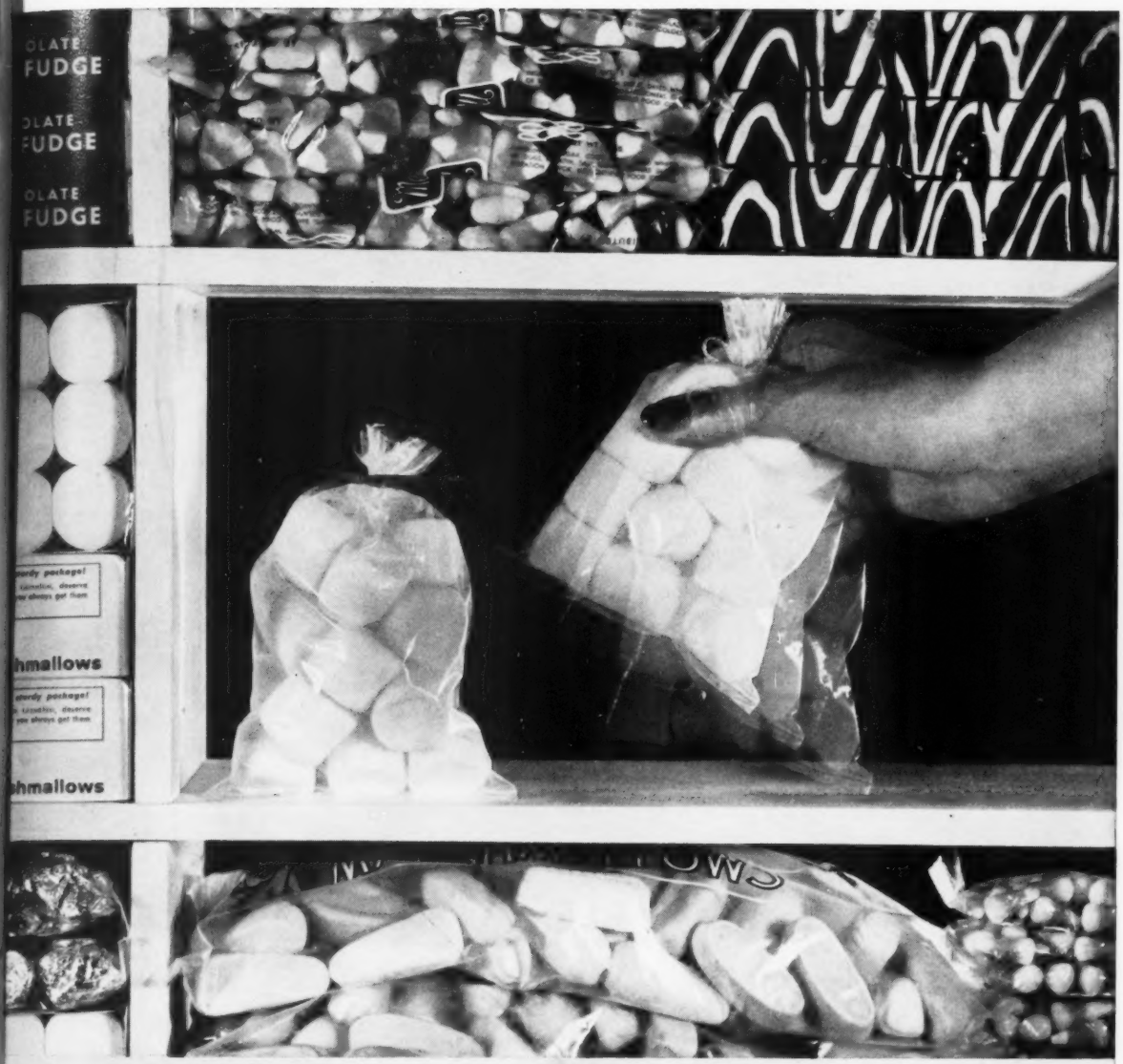

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SORBO® (Atlas sorbitol solution) gives marshmallows, fudge, and many other candies longer shelf life, improved texture and better appearance. By holding the desired moisture in the candy, it slows drying out and prevents the formation of fog inside transparent packages. It modifies sugar crystallization to retard hardening. All this adds up to faster Shelf Action—which explains why Atlas Sorbo appears in the ingredient lists of more and more popular candies. Be sure the candy you buy has Sorbo Added for Shopper Appeal.

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